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The Private Forest Landowners of Minnesota—1982

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THE PRIVATE FOREST LANDOWNERS OF MINNESOTA—1982

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Minnesota's nonindustrial, privately owned forests represent 41 percent of the total commercial forest land in the State[1] (Jakes 1980). While 82 percent of Minnesota's total commercial forest acreage is located in the northern part of the State, in the Aspen-Birch and Northern Pine Resource Units, only 62 percent of the privately held acreage is situated there (fig. 1). Nonindustrial private forest landowners (NIPFL) account for only 31 percent of the commercial forest land in these northern two survey units, but in the Central Hardwood and Prairie Units 84 percent is in private ownership.

Our study includes only private ownership units with less than 5,000 acres of forest land. Consequently, the percentages and proportions involved in the remainder of this report are based on 130,800 private ownership units with 5,100,350 forested acres, and does not include the 494,350 forest acres held in large private holdings each with 5,000 acres or more (table 1).

In northern Minnesota, these private forests help support a thriving forest industry primarily involved in the production of paper products and waferboard panels from spruce, fir, pine, and aspen. In the southeast, these ownerships contain valuable oak and other hardwoods important to the sawmill and lumber industry. Statewide, these privately owned forests provide recreational and esthetic amenities for the enjoyment of the general public as well as individual owners.

[1] *Fifty-three percent is controlled by public agencies and 6 percent is owned by forest industry. Neither awere included in this study.*

The tabulations included in this report give a broad insight into the private forest resource and those who control it—information vital to agencies, firms, and individuals responsible for decisions relative to the development and management of these lands. The results presented have been expanded from a sample to estimate the number and characteristics of all small private landownership units in Minnesota. The study complements the recently published reports containing resource acreage and volume information for the State and its four survey units (Spencer 1982, Jakes 1980, Spencer and Ostrom 1979, Jakes and Raile 1980, Hahn and Smith 1980, Vasilevsky and Hackett 1980). This ownership information will be useful to public agencies, forest industry, and others involved in planning and evaluating forest management programs, in timber procurement, in industrial development, and in assessing the land use objectives of this diverse class of owners.

The study sample is based on a random distribution of points located on aerial photographs, and is land oriented. The legal description of the photo point location was identified from County records and the owner of record determined. A questionnaire was mailed to these apparent owners and their responses provided the basis for our estimates. From these returns, the ownership units were defined as held either by individuals (persons or groups of persons) or by more formal owner entities such as partnerships, corporations, clubs, estates, and trusts. Minnesota private forest landowners are diverse in their characteristics, attitudes, reasons for owning, opinions on forest management, public and private recreational use, timber harvesting and management activity, and the perceived benefits from forest land ownership.

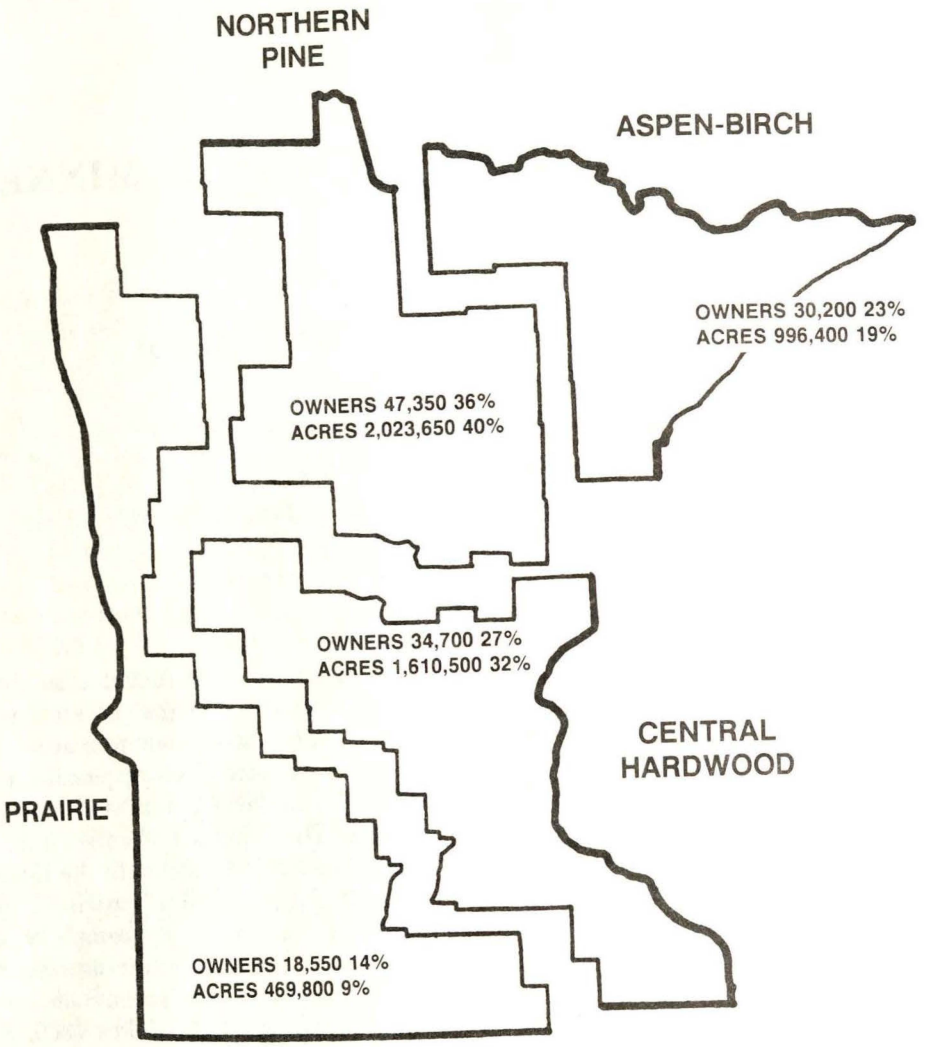

Figure 1.—*Distribution of private ownerships in Minnesota by forest survey unit.*

PRIVATE FOREST OWNERSHIP UNITS

We estimate there are 130,800 private ownership units with a total of 5,100,350 acres of commercial forest land in Minnesota (table 1). Thirty-four percent of these ownership units each have less than 10 acres of woodland and account for only 4 percent of the total commercial forest land (fig. 2). Sixty-one percent of the owners have less than 30 acres each and control 15 percent of the forest land. Ten percent of the owners each have 100 acres or more and account for 45 percent of the land in an estimated 12,800 ownership units.

The average size of holding is 39 acres when all are considered but this increases to 57 acres when ownerships of less than 10 acres are omitted. The average size of holding varies from 25 acres in the Prairie Unit to 46 acres in the Central Hardwood Unit. The Northern Pine Unit contains the most

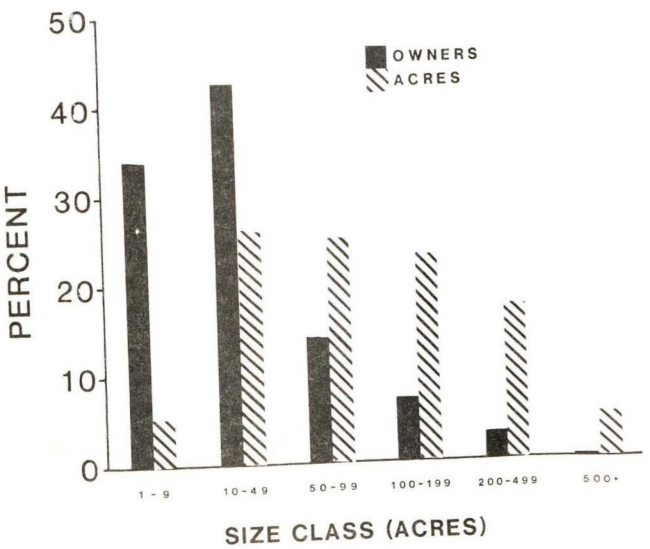

Figure 2.—*Distribution of private ownerships by size class of ownerships.*

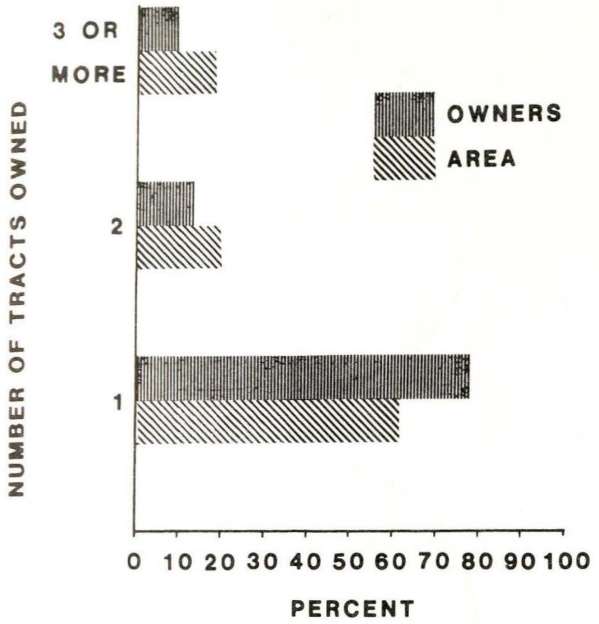

Figure 3.—*Distribution of private ownership units by number of tracts owned.*

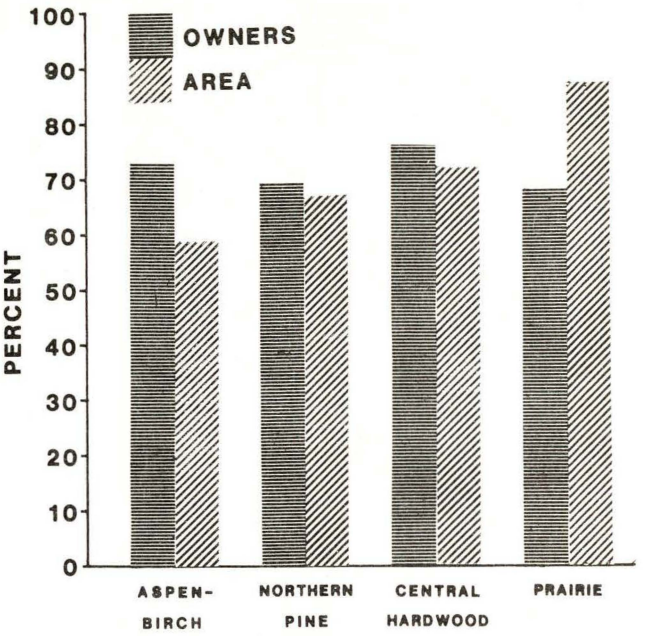

Figure 4.—*Distribution of resident ownerships by forest survey unit.*

acreage and has the most ownership units. Seventy percent of the privately held forest in Minnesota is in holdings greater than 50 acres that average 115 acres of woodland.

Number of Tracts

Very few ownership units have more than one or two distinct forested tracts. Seventy-eight percent of the units, with 62 percent of the private forest land, have only one forest tract (table 2, fig. 3). Sixty percent of the multi-tract properties have only two tracts. The two southern units have the highest proportion of ownerships with more than one tract and half of the Prairie Unit forest acreage is in multi-tract properties.

Distance from Residence

The incentive to practice more intensive forest management or to harvest timber might be increased if the owner lives close enough to the timber tracts to monitor or personally do the work. We divided the ownership units into three classes: those with the residence under 25 miles (resident), 25 to 49 miles (intermediate), and 50 miles or more (nonresident) from their nearest forest tract.

Seventy-one percent of the ownership units, with 69 percent of the commercial forest acreage, have the nearest forest tract less than 25 miles from the owner's residence (table 3). Three percent are from 25 to 50 miles away and 18 percent, with over one-fifth of the total forest area, live 50 miles or more from their nearest forest tract. Actually, a majority of the resident owners live on the tract or within 1 or 2 miles of it. Resident ownerships are fairly evenly distributed by survey unit but a slightly higher proportion of the acreage in the Prairie Unit is in resident ownerships (fig. 4). Holdings with forest tracts in the northern survey units have a slightly higher proportion in the more distant class. This pattern may result from owners having their residence in the populous Twin Cities area and owning a timber tract up North. Statewide, properties with the nearest tract 50 miles or more from the owner's residence account for over 1 million acres of commercial forest land.

Both the number of properties and acreage owned are fairly consistently distributed by size class and distance class except for those with 500 acres or more where slightly higher proportions are in the more remote class (table 4). But, the acreage involved in the latter is not large.

The distance from residence to forest is explicitly defined for one-tract properties. The owners of seventy percent of these, with 65 percent of the commercial forest land in this group, live within 25 miles of their forest (table 5). One quarter of the land in one-tract ownership (741,100 acres) is 50 miles or more away from the owner's residence. Dispersion of forested tracts does not seem to be a major factor for Minnesota owners. We calculate that only 1,850 owners with 111,350 acres may have tracts separated by any significant distance. Over half of the multitract properties have the farthest tract less than 25 miles from the owner's residence. Again, a

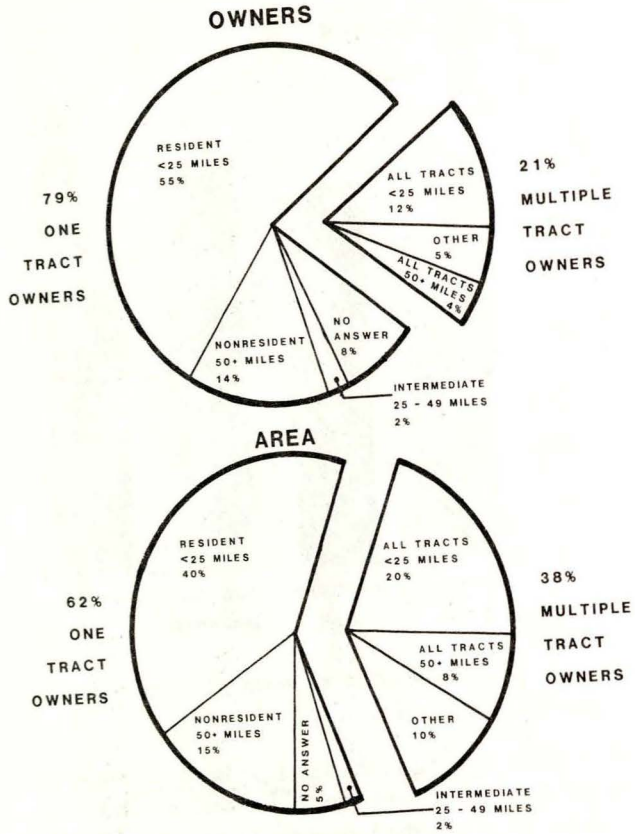

Figure 5.—*Distribution of ownership units by distance from residence and number of tracts owned.*

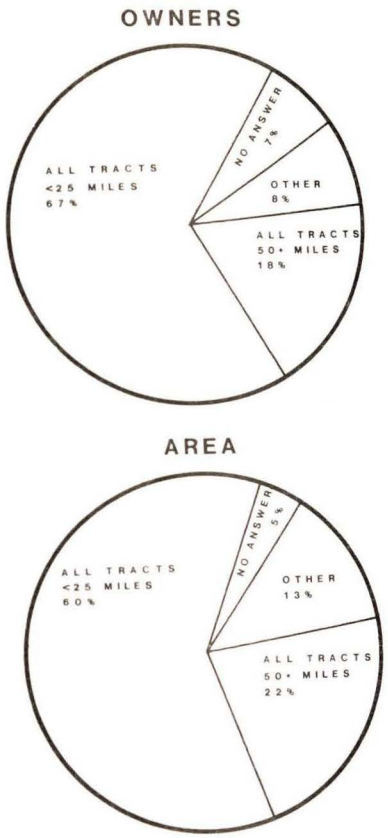

Figure 6.—*Distribution of ownership by distance from residence.*

higher proportion of multitract holdings with land in the northern areas have the farthest tract more distant from the owner's residence (table 6).

We can summarize tract ownership as follows: 79 percent of the ownership units with 62 percent of the area are in one-tract holdings (fig. 5). Twenty-one percent (with 38 percent of the area) have more than one tract, although 60 percent of these are limited to two tracts. Fifty-five percent of the owners have one-tract properties are less than 25 miles from their residence. Twelve percent have multi-tract properties with all tracts less than 25 miles away (20 percent of the area). When all properties are considered, 67 percent, with 60 percent of the area, have all tracts less than 25 miles from the owner's residence (fig. 6). Between one-fifth and one-quarter of all commercial forest land is 50 miles or more from the owner's residence. About 8 percent of the owners with 5 percent of the land did not provide this information.

Tenure

The average time a person or group owns forest land has been variously estimated to be between 10 and 15 years. Tenure can have an important influence on decisions to harvest timber or invest in forest improvement practices, so we asked owners to tell us when they first acquired woodland. We estimate about 62 percent of Minnesota's private forest landowners, with 58 percent of the area, have held their forest land 22 years or less—over one-third for 12 years or less (table 7). And, this represents a maximum tenure because many owners have acquired additional forest land after their initial acquisition.

FORM OF OWNERSHIP

Individually owned properties, which include joint party ownerships, account for 92 percent of all holdings (120,000 units) and 91 percent of the commercial forest land (4,643,050 acres) (table 8). Most of the remaining are held by corporations, partnerships, and in undivided estates. Acres in individually held properties are consistently distributed in all survey units, varying from 89 to 93 percent of the total.

Thirty percent of the ownership units are part of an active farm (fig. 7). The 39,400 farms contain 2,079,200 acres or 41 percent of the State's privately held commercial forest land, and most are held by individuals (table 9). The remaining 3,021,150 acres are held in 91,400 nonfarm, miscellaneous private properties 90 percent of which are individually

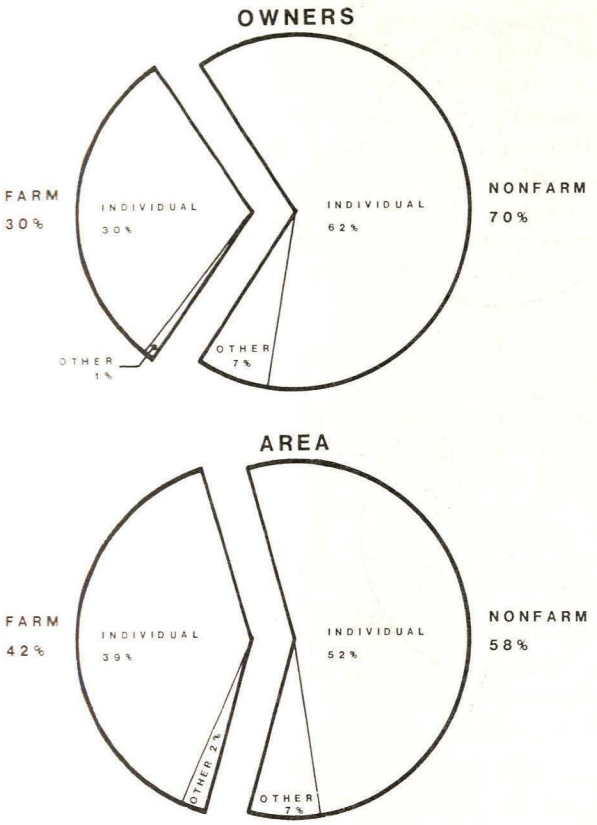

Figure 7.—*Distribution of farm and nonfarm ownership units by form of ownership.*

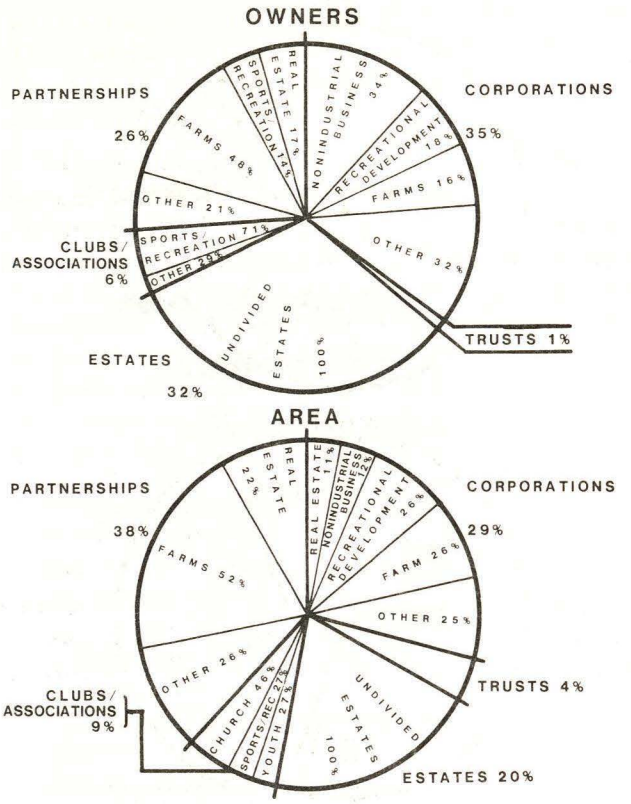

Figure 8.—*Distribution of business and group ownership units by form of ownership and nature of business.*

owned. Farm properties average 53 acres of woodland while the nonfarm properties average 33 acres.

NATURE OF BUSINESS

We estimate there are 4,450 non-farm units with 283,750 forested acres that are owned by other than individuals (tables 10 and 11). We asked these partnerships, corporations, clubs, associations, trusts and estates to tell us about the nature of their organization. By far the most (38 percent) were simply undivided estates, next were nonindustrial businesses (17 percent) and then sport-recreation clubs (13 percent). The acreage was also mostly in estates (26 percent); real estate firms or those who held the land for speculation ranked second (17 percent). Most farms that are not individually owned are held by partnerships or corporations (fig. 8). These farms have an average of 109 acres of forest land. Most clubs and associations are recreation oriented but churches account for much of the acreage.

OWNER CHARACTERISTICS

We asked the individual owners to provide information about their occupation, age, education, annual income, and early life environment. These variables have been used to predict owner interest in forest management practices, such as tree planting, harvesting, thinning, and improvement cutting.

Retired persons (22 percent) make up the largest proportion of Minnesota forest landowners followed by farmers (16 percent), with the proportion of acres owned reversed—farmers 24 percent and retired persons 20 percent (table 12). Professionals, business owners/executives, and white collar workers as a group account for 27 percent of the ownership units and 30 percent of the forest area. Professionals and business owner/executives, have average size holdings of 43 acres and 46 acres respectively, ranking behind farmers whose holdings average 58 acres (fig. 9).

Surprisingly, of the 38,550 individually owned active farms, only half (19,300) have owners who list their occupation as farmer (table 13). Thus, about 40 percent of the forested acreage on active farms is held by part-time farmers or those who may not actively work on the farm.

Personal characteristics of individual owners are shown in tables 14 to 17 and figure 10. Sixty-two percent of the owners are 45 years or older and

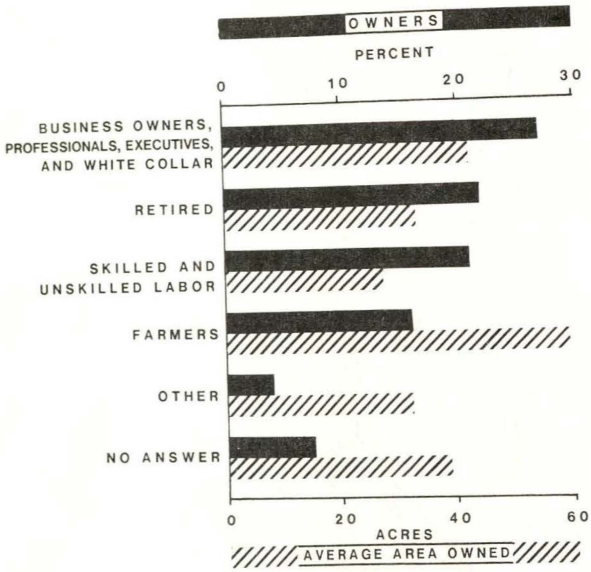

Figure 9.—*Distribution of individual owners and average area owned by owner occupation.*

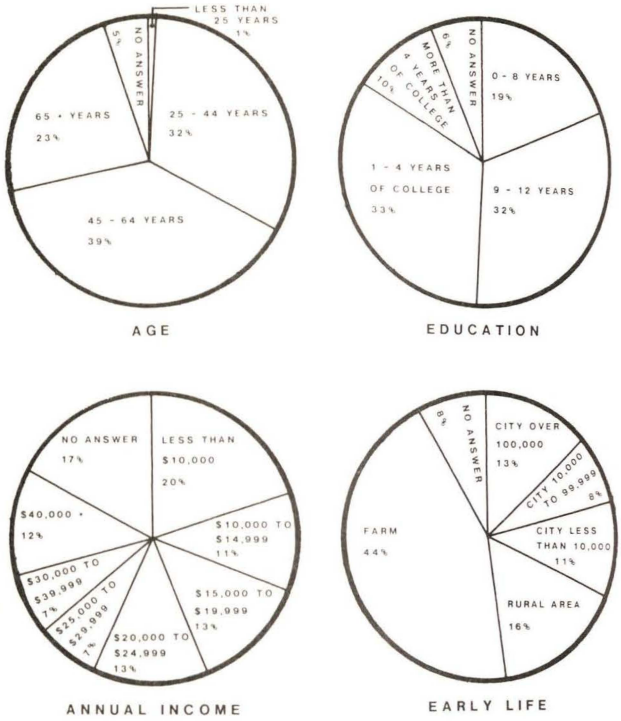

Figure 10.—*Distribution of number of owners by owner characteristics.*

almost half of the area is owned by individuals between the ages of 45 and 64 years old. Forty-three percent were educated beyond high school, while 19 percent have 8 years or less of formal schooling. When only those who answered the income question are included, nearly one-quarter earn under $10,000 annually and they own one-fifth of the forest area. Twenty-three percent earn $30,000 or more and together they hold about one-third of the area in holdings that average 57 acres each. Also, the Central Hardwood and Prairie Units have a higher proportion of owners in the upper income brackets, but their average size holding in the Prairie Unit is half of that in the Central Hardwood Unit. Nearly three-quarters of those who own land in the Prairie Unit spent their early life on a farm or in a rural area, while only 44 percent of those owning land in the Aspen-Birch Unit did.

OWNER OBJECTIVES AND ATTITUDES

Reason for Owning Forest Land

Except for cutting firewood for their own use, owners appear to have little interest in the timber production aspect of forest land ownership (table 18). Esthetic enjoyment (16 percent) and recreation (12 percent) rank as important reasons for owning woodland, but one-third of the owners have forest land just because it is part of the farm or residence. The reason for owning differs little between major harvesters and nonharvesters (table 19). Because of the popularity of cutting firewood in recent years, we divided respondents who provided information about the kind and amount of material harvested into two groups. Minor harvesters cut less than 30 cords of firewood or a very small amount of other products such as posts, poles, or saw logs, primarily for their own use. Major harvesters cut larger amounts or combinations of products. The proportion of major harvesters citing esthetic enjoyment, recreation and second home use as the primary reason for owning forest land (31 percent) is not much different than that for minor and nonharvesters (35 percent).

Owners with land in the Central Hardwood and Prairie Units say cutting firewood for their own use is important more often than those who own land in the northern units (table 20). An unusually high proportion of owners with land in the Aspen-Birch Unit cite as an important reason for owning forest land that it is "part of the residence." On the basis of acres owned, Prairie owners rank high that it is "part of the farm residence."

We will discuss what owners tell us about their future harvest plans in a later paragraph, but it is interesting to contrast primary reason for owning with future harvest intentions. Eleven percent of the

owners, who say they never intend to harvest, say cutting firewood for their own use is their most important reason for owning forest land (table 21). Obviously, they do not consider cutting a few cords of firewood as conducting a timber harvest and likely equate timber harvesting with selling a product. It may be a problem if owners do not recognize that firewood harvesting provides an excellent opportunity to improve the quality and value of their timber holding.

Relative to the commonly noted conflict between recreation use and timber harvesting, we find that owners who intend to harvest often say recreation use, esthetic enjoyment, or second home site is their most important reason for owning forest land and harvesting is less important.

Primary Benefit from Owning Forest Land

Esthetic enjoyment (29 percent) was most often indicated as the benefit owners expect to receive in the future from owning forest land (table 23). Firewood for themselves (22 percent), the next most important expected benefit, was cited by owners who control over 1 million acres of commercial forest land, followed by increase in land value (12 percent), and nonmotorized recreation (10 percent). Neither sale of firewood nor of timber products was expected to be an important benefit, even for those who plan to conduct a timber harvest (table 24). While investment was not perceived to be an important reason for owning forest land, it was recognized as having been more important in the recent past, and is expected to be even more important in the near future. This view was likely a result of increased land value prompted by the relatively high inflation rate that prevailed at the time of the study.

We found similar patterns when contrasting primary benefits from owning woodland with harvest history. Esthetic enjoyment was a major benefit received by major harvesters as well as by those who had not harvested (table 22). Again, cutting firewood for their own use was an important benefit for some who indicated they had not harvested timber. Also, even major harvesters did not rank the sale of timber products very high as a recent benefit.

Harvest History and Why People Harvest

Fifty-seven percent of the owners indicated they had harvested some material; about half of these were major harvesters (table 25). The average size of holding for major harvesters was 53 forested acres, for minor harvesters 40 acres, while those who did not harvest held an average of 30 acres of forest. Those who did not answer the harvest question nor the form of ownership question averaged only 9 acres of forest.

Twenty-nine percent of the individual major harvesters indicated the main reason they cut the material was for their own use (table 26). Many others said they were prompted to salvage dead and dying trees. Other reasons for harvesting were to cut mature timber, to thin or improve the stand, the need for money or to clear land for another use. A higher proportion of farm ownership units (72 percent) harvest than do nonfarm, but half of the nonfarm units indicated they had harvested (table 27).

Almost two-thirds of the minor harvesters cut the material for their own use and 23 percent cut to salvage dead or dying trees (table 28). Often, both of these reasons were mentioned by respondents.

Why Owners Do Not Harvest

Many nonharvesters are concerned that timber harvesting would ruin the esthetic or visual aspects of their property (17 percent) or would have a detrimental effect on hunting (10 percent) (table 29). Thirty-seven percent of the nonharvesters felt a physical characteristic of the resource would deter them from harvesting such as low volume, immature timber, poor quality or too small an area.

Harvest Plans

We asked owners to give us some indication of their harvest plans, and while nearly one-third of the individual owners said they never plan to harvest they owned only 17 percent of the individually owned commercial forest land (table 30). A high proportion of farmers (72 percent), holding nearly a million forest acres, have positive or at least indefinite harvest plans. A higher proportion of retired owners, those with a skilled trade and unskilled workers said they never plan to harvest than did other occupation groups. However, on an acreage basis, only retired people have a high proportion of acreage owned and a significant amount of land held by those who never plan to harvest. The average size of forest holding is larger (across all occupation groups except homemakers) for those with positive harvest plans than for those who never plan to harvest. Furthermore, in nearly all occupations the holding is larger, on the average, for those owners with more definite plans. Perhaps it is not surprising that a high proportion of unskilled laborers say they never plan to harvest (average holding only 6 acres of commercial forest land) nor the fact that all loggers plan to harvest their timber. Nearly half the acreage in the "never

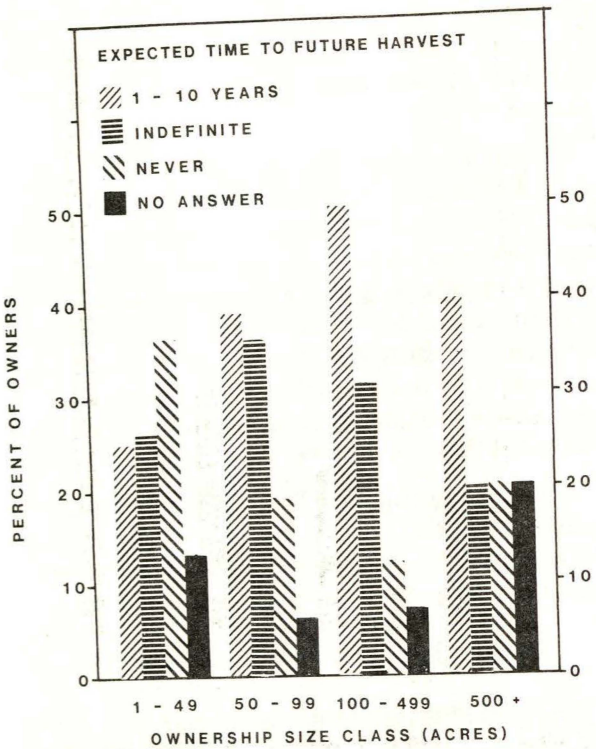

Figure 11.—*Distribution of owners by size of ownership and intention to harvest.*

harvest" category is held by retired persons or farmers, but occupation does not seem to have an important influence on harvest planning in Minnesota.

The influence of size of holding on harvest plans is further demonstrated in table 31. In the 1-49 acre size class, owners who never plan to harvest have an average holding about half the size (11 acres) of those who plan to harvest (19 acres). Eighty-two percent of the owners of 50 acres or more of forest land, who answered the question, said they would harvest. The percent of owners who never plan to harvest consistently decreases as the size of ownership increases (fig. 11).

Harvesting Practices

Landowners who have had major timber harvests personally determine which trees will be cut 63 percent of the time and control two-thirds of the land (table 32, fig. 12). But, half of them didn't indicate what cutting method they used. In fact, 56 percent of the owners did not indicate a cutting method regardless of who chose the trees to be cut. One might suspect that ignorance of forestry methods could account for some of this response. Considering only respondents who indicated a cutting method, the selection method (47 percent) was used far more than any other. Diameter limit (17 percent) and clearcutting (14 percent) were the next most popular methods. Because clearcutting is a widely used harvest3

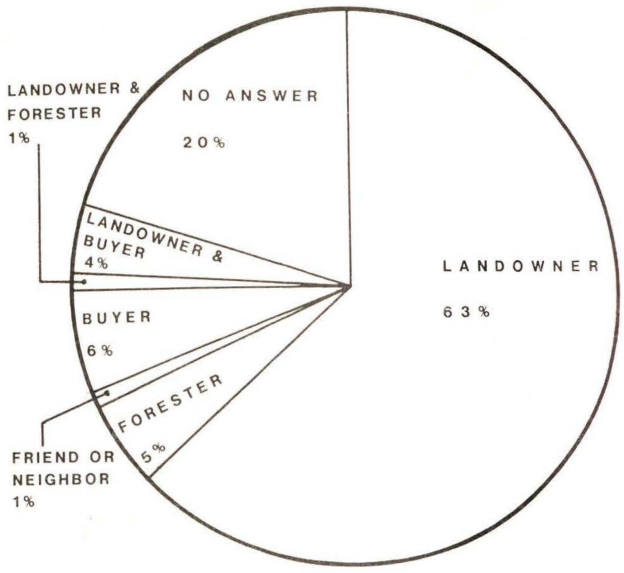

Figure 12.—*Distribution of harvesters by person selecting trees to be cut.*

method for many timber types, especially in northern Minnesota, 14 percent seems unrepresentative.

Owners indicated foresters were involved in making the determination only 6 percent of the time, that foresters used the selection method 65 percent of the time, but 18 percent of the owners didn't tell us the method foresters used. The timber buyer was involved in determining which trees to cut 10 percent of the time on ownership units controlling 15 percent of the land held by major harvesters. It appears foresters may not influence timber harvesting on private forest land in Minnesota to any great extent.

Thirty-eight percent of the net annual softwood timber removals and 63 percent of the hardwood removals in Minnesota are estimated to come from farm and other private ownerships, this includes one-third of the pulpwood, one-half of the saw logs and 81 percent of the fuelwood (Jakes 1980). Thirty-six percent of the major harvesters indicated they cut firewood, but the same proportion didn't tell us what product was harvested (table 33, fig. 13). Saw logs (32 percent) and pulpwood (23 percent) were also important products. Two-thirds of the harvesters owned less than 50 acres of commercial forest land, and 39 percent of the harvesters cut more than one product.

Improvement Cut

We asked owners if they would consider a timber sale if a whole-tree thinning method were used (no all trees harvested and tops and limbs are removed from the site). We indicated that this general

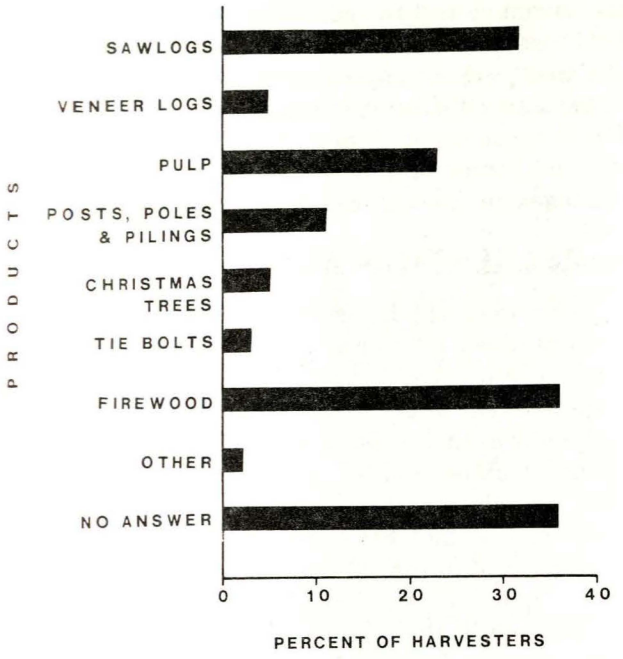

Figure 13.—*Distribution of major harvesters by products harvested.*

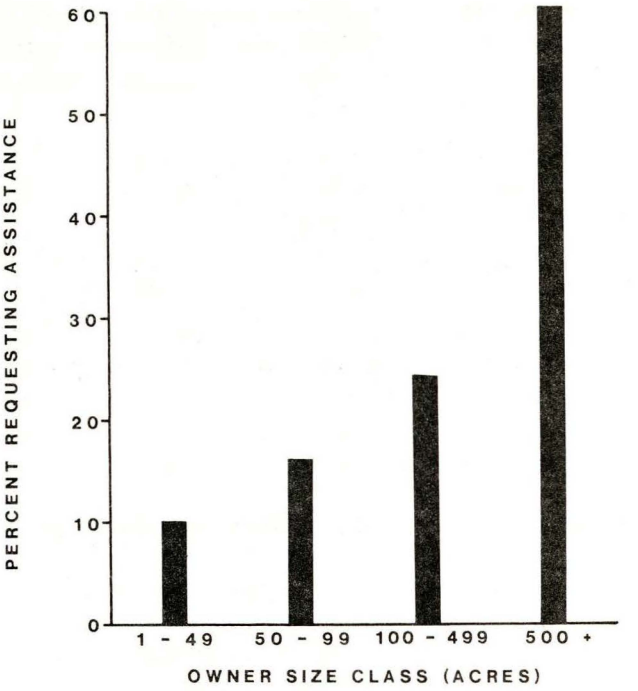

Figure 14.—*Percent of owners requesting assistance by owner size class.*

improves timber growth and quality as well as wildlife habitat. Forty-four percent of all owners (57,700), holding 61 percent of the commercial forest land (3.1 million acres), indicated they would be interested (table 34). Though not shown in the table, the larger ownership classes and nonresident owners consistently showed more interest in whole-tree thinning relative to their representation in the population. However, resident owners in the Northern Pine (13,050) and Central Hardwood (12,650) Units accounted for the largest number of interested owners.

It appears that whole-tree improvement thinning might influence timber availability. When asked about harvest plans, 31 percent of all owners (40,550) said they never plan to harvest, but 27 percent of these owners, with 43 percent of the forest land, said they would be interested in a whole-tree thinning (table 35). Again, a higher proportion of nonresidents (55 percent) were interested than residents (14 percent).

Based on the number of owners, we found those from 45 to 64 years old and those with 1-4 years of college showed the most interest in improvement cutting (table 36). In terms of acres owned, we could add to those groups the upper income and farmer-held ownerships. Relative to their proportion in the population, young owners, those with more than 4 years of college, professional workers and those with incomes of over $40,000 stood out. Obviously some of these variables are highly correlated.

FORESTRY ASSISTANCE

In an open-ended question, we asked owners to tell us about the nature of any forest management assistance they may have received and to identify the agency or individual they would contact for forestry assistance. We estimate only 12 percent of the owners, who hold 21 percent of the commercial forest land, have ever requested forestry assistance (table 37). Even though only 10 percent of all owners in the 1- to 49-acre size class have requested assistance, there are so many owners in this size class that it contains nearly two-thirds of all assisted owners. In a size class with fewer owners, such as the owners with 500 acres or more, 60 percent of the owners in the size class are assisted, but their *numbers* are relatively few (table 38, fig. 14). The 100- to 499-acre class accounts for one-half of the acreage in assisted ownerships. Resident owners (0-24 miles) account for most of the forestry assistance activity (74 percent), but 28 percent of the acreage in assisted ownerships is in nonresident holdings (50+ miles) (table 39).

Forty-three percent of the assisted owners requested a forest management plan for their property or more than one kind of assistance which we classed as general management assistance (table 40). General assistance was popular for all sizes of ownerships but was slightly more popular with the 1- to 49-acre class. Timber sale and valuation assistance (24 percent) was second in importance. Similar distributions held for resident owners; nonresidents

also listed general management most often, but timber stand improvement assistance replaced sales and valuation as their next most popular activity (table 41).

Over 80 percent of the assisted owners (13,350 owners) were major or minor harvesters (table 42). This indicates that assisted owners are generally active as timber suppliers. Of course, some assistance was related to the timber sales process.

In summary, we found nearly two-thirds of the assisted owners owned less than 50 acres of commercial forest land, three-quarters were residents and two-thirds requested general management or timber sale valuation assistance.

Who Requests Forestry Assistance?

Owner characteristics may provide some insight into who requests forestry assistance (tables 43 to 46). Relative to their proportion in the population (32 percent), the 25- to 44-year age group accounted for nearly half of the owners who requested assistance (46 percent) (table 43). Professionals, farmers, and those with skilled trades were highly motivated. Professionals with 23 percent of acres owned by assisted owners were especially important, followed by farmers (20 percent) and retired (15 percent) (table 44). Education seems to have a positive impact in creating owner interest with 63 percent of the assisted owners having had some education beyond high school (table 45). They own 72 percent of the acreage in assisted ownerships.

The influence of income is less clear as quite a few assisted owners didn't answer the income question (table 46). Owners in the $20 to $25,000 group and the $40,000-plus group were those most active in requesting assistance.

Where Owners Go For Help

Forty-five percent of the owners, holding 45 percent of the commercial forest acres in Minnesota, did not know where to go for forestry assistance (table 47). Another 26 percent with 19 percent of the acres, did not answer the question. When a source of assistance was cited, the State forestry department (DNR) was overwhelmingly recognized. The proportion of owners citing a source increased as the size of ownership increased.

Most of those who had sought assistance in the past could cite an agency they would go to for help; about half said they would contact a State forester and only 14 percent said they didn't know who they would contact (table 48). For the 80 percent of all owners who had not sought forestry assistance only 25 percent named an agency or individual to contact for forestry information. Again, most of these cited the State forestry agency. Since few owners have forest land for the purpose of growing trees under a forest management system, it is not surprising most are indifferent or ignorant of a specific source of management assistance.

RECREATION AND PUBLIC USE

Recreation, whether considered a prime reason for owning forest land or not, is an important use of forested properties. About one-third of the owners indicated recreation, second-home use or esthetic enjoyment was their most important reason for owning their woodland and a like proportion listed these uses as their second most important reason (double counting possible). But 88 percent of those with ownerships, containing 92 percent of the commercial forest land, indicated that their property was used by themselves, their family or close friends or by the general public for some form of recreation (table 49). Thirty-two percent of the owners, holding 37 percent of the forest land, indicate that the public is permitted to use their land; 20 percent did not answer the public use question. Hunting is most often shown as a recreation use by the owner or close friends (49 percent) followed by hiking or skiing (40 percent) and berry picking (36 percent) (table 50). Four-fifths of all owners profess to use their land for one or more kinds of recreation and those ownerships contain 86 percent of the commercial forest land in Minnesota.

Public use is allowed by an estimated 42,000 owners, or about one-third of all owners, but an additional 35,300 owners (27 percent) did not answer the question (table 51). Hunting is the most prevalent public use but only 14 percent of all owners would allow the public to hunt on their land.

Private and public recreation was distributed fairly evenly across survey units, although hunting was slightly less favored by owners of forest land in the Aspen-Birch Unit (table 52). Likewise, the percentage of owners allowing public use is fairly constant for all sizes of ownership, except the very largest ownerships are more likely to allow public use (table 53).

Posted Land

Forty-one percent of the owners indicated they do not allow public use of their land, but only half of these post their land. Only 31 percent of all owners formally restrict public use through posting, 60 percent do not post (table 54). A higher proportion of owners with land in the Central Hardwood and Northern Pine Units post their land than do those in other units.

To control hunting or access are the main reasons owners post their land (table 55). But posting does not mean the land is not available for public use since 5,950 owners who post their land also indicate public use is permitted.

CONCLUSIONS

Few nonindustrial private forest landowners own forest land primarily for the production of timber. Many owners cut firewood for their own use but they do not consider this a timber harvest, possibly because they often report removing only dead or dying trees. When harvesting is done, foresters selected the trees for cutting only 6 percent of the time. Full-tree thinning may provide an opportunity to increase timber harvest, especially on nonresident ownerships. Harvesting may increase because 82 percent of the owners of 50 acres or more of forest land (70 percent of the forest acreage) said they plan to harvest.

Recreation is an important use of nonindustrial private forests. Four-fifths of all owners indicated they use their land for one or more forms of recreation, but we estimated public recreation is permitted on only one-third of the ownership units. Hunting was the most popular recreation use.

Owners of about one-fifth of the commercial forest land have requested professional forestry assistance. Usually owners contacted the Minnesota Department of Natural Resources for assistance and most assisted owners live on or near their forest tract. Nearly half of those who requested assistance were in the 25- to 44-year age group, but over half of the acreage was held by those in the 45- to 64-year age group. One-third of the forest land has been held by the current owner for 12 years or less, thus, those responsible for encouraging better forest management on nonindustrial private forests are faced with an on-going promotional and service effort.

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APPENDIX

STUDY METHOD

To focus our study more directly on the relatively small private forest holdings, we eliminated from the study all forest industry firms, and all individual, industrial, commercial, and business ownerships with 5,000 acres or more of forest land. The estimated total acreage of commercial forest land in private ownerships was obtained from the Minnesota forest survey (Jakes 1980). The commercial forest base for nonindustrial private forest landowners in each survey unit is shown in the following tabulation.

Unit	All private ownerships	Large private ownerships		Small private ownerships
	(Acres)	(Number)[2]	(Acres)	(Acres)
Aspen-Birch	1,319,600	13	323,000	996,400
Northern Pine	2,175,700	6	152,050	2,023,650
Central Hardwood	1,622,200	3	11,700	1,610,500
Prairie	477,200	1	7,400	469,800
Total	5,594,700	17	494,350	5,100,350

The sample of small private ownerships for our study was randomly drawn from private ownerships that had survey plots placed on their land in the Statewide timber inventory conducted by the North Central Forest Experiment Station. Thus, our study design is derived from the sampling design used in the Station's forest inventory program.

Forest Inventory Analysis crews obtained the name and mailing address of each owner of the 4,112 privately owned forested field plots in the State. These plots were systematically distributed within each of the four survey units. The exclusion of large landowners reduced the number of nonindustrial private landowner plots to 3,925. From these plots, a random sample of 2,352 were selected and the owners contacted for information. Through multiple mailings, 1,437 usable questionnaires were returned for a response rate of 61 percent. The design of the study is land oriented and the probability that a particular forest ownership would be sampled depended on the rate of sampling and the acreage of commercial forest land owned. Each survey unit had a different rate of sampling, and the area represented by each plot is determined by dividing the commercial forest area in nonindustrial ownership in the unit by the number of field plots represented by valid questionnaires.[3]

There were four sampling units in Minnesota:

Unit	Usable questionnaires	Usable survey plots	Average acreage/plot
	Number		
Aspen-Birch	426	438	2,275
Northern Pine	423	432	4,684
Central Hardwood	424	424	3,798
Prairie	164	164	2,865
All Units	1,437	1,458	3,498

The probability that a given owner would be sampled is directly proportional to the acres of commercial forest land owned. Therefore, it was necessary to weight the responding ownership units to estimate the total number of ownerships in Minnesota. This procedure can be stated as:

$$N = \frac{CFL_p}{N_r} < \frac{1}{A_i}$$

N = estimated number of private owners in the sampling area.

CFL_p = the acres of private commercial forest land in the sampling area.

N_r = the number of respondents in the sampling area.

A_i = the acres of commercial forest land owned by an individual respondent.

The ΣN then equals the estimated number of nonindustrial private owners in the State. This is an unbiased estimate of the total number of persons who own commercial forest land in Minnesota.

Data collection for this study was accomplished by the Bureau of Business and Economic Research, University of Minnesota, Duluth, Minnesota under the direction of Dr. Jerrold M. Peterson, Director. A multiple mailing system included sending a cover letter explaining the purpose of the study and a questionnaire to each sample owner followed in approximately 10 days by a reminder post card. Ten days to 2 weeks later a second letter and questionnaire were sent to nonrespondents followed in 2 weeks by a final reminder post card. Owners having more than one survey plot were sent only one questionnaire and their response was weighted proportional to the number of plots on their land.

Updating the landowner address file, and data coding for the Aspen-Birch and Northern Pine

[2]*Subsidiaries of major nonforest corporations are not counted separately. Some owners control property in more than one unit.*

[3]*Copies of questionnaires are available from: Publications, USDA Forest Service, North Central Forest Experiment Station, St. Paul, Minnesota 55108.*

Units, was accomplished with cooperation from the Arrowhead Regional Development Commission, Duluth, Minnesota, under the direction of Stephen Krmpotich and Dan Peterson.

Updating the landowner file and the extension of the study to include the Central Hardwood and Prairie Survey Units was accomplished with cooperation of Dr. Paul Ellefson and Michael Kilgore, Department of Forest Resources, College of Forestry, University of Minnesota, St. Paul, Minnesota. Assistance was also provided by Dr. William J. Craig, Assistant Director, Center for Urban and Regional Affairs, University of Minnesota, Minneapolis, Minnesota, and the Division of Forestry, Department of Natural Resources, St. Paul, Minnesota.

SAMPLING ERRORS

It is important to have a measure of the variation associated with the estimates shown in the tabulations because every owner and every acre were not sampled. A measure of the reliability of an estimate, based on our sample, is given by the sampling error. We have included sampling errors for selected categories to provide a means for evaluating the survey results; the smaller the sampling error the greater the reliability of the estimate. Sampling errors for estimates of acres of commercial forest land owned were calculated using the estimated sampling error for the total of a simple random sample, and sampling errors for estimates of number of owners were calculated using the estimated sampling error for the total of an unequal probability sample (Cochran 1977).

A sampling error of 10 percent for a particular table entry means that 2 out of 3 times the true value for the population would lie within an interval constructed to represent a range of 90 to 110 percent of the value shown. Three things should be considered with regard to sampling error when looking at any table value. First, estimates for large areas are more reliabile than for smaller areas because of the larger number of samples involved. Thus estimates for the entire state have lower sampling errors than for an individual unit.

Second, because the design sampled area with equal probability and owners with unequal probability the estimates of area generally have lower sampling errors. Finally, again because of the unequal probability sampling of owners, estimates of the number of owners having small ownerships is greater than the number of owners having large ownerships. Thus when small forest holdings (those under 10 acres) are included in the study population the sampling error increases substantially.

The sampling errors (in percent) are:

Unit	Estimates of acres of private commercial forest land	Estimates of the number of owners of provate commercial forest land	Estimates of the number of owners holding 10 or more acres
Aspen-Birch	0.76	14.5	5.1
Northern Pine	1.16	9.1	5.9
Central Hardwood	1.59	7.7	5.1
Prairie	3.30	17.8	8.5
All Units	0.65	6.9	3.1

DEFINITION OF TERMS

Clearcutting.—The method of harvesting and regenerating timber in which the area is cut clear in the literal sense of the word; virtually all the trees, large and small, are removed. The term is often erroneously applied to any type of cutting in which all the merchantable timber is removed.

Commercial forest land.—Land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. The minimum area for classification of commercial forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must have a crown width of at least 120 feet to qualify. Unimproved roads and trails, streams, or other bodies of water or clearings in forest areas are included if less than 120 feet wide. (Note: Areas qualifying as commercial forest land have the capability of producing in excess of 20 cubic feet per acre per year of annual growth under management. Currently inaccessible and inoperable areas are included, except when the areas involved are small and unlikely to become suitable for production of industrial wood in the foreseeable future.)

Diameter limit.—The method of harvesting and regenerating timber in which all trees above a specific diameter are removed.

Farm.—An ownership unit which the respondent designated as an active farm.

Forest industries.—Companies or individuals operating wood-using plants.

Hardwoods.—Dicotyledonous trees, usually broad-leaved and deciduous.

Major harvest.—The cutting in the most recent harvest of more than 30 cords of firewood or 3,000 board feet of saw logs, or large amounts of posts, poles, or Christmas trees primarily for sale to others.

Minor harvest.—The cutting in the most recent harvest of less than 30 cords of firewood, 3,000 board feet of saw logs, or small amounts of posts, poles, or Christmas trees primarily for own use.

Miscellaneous private land.—Privately owned land other than forest-industry and farmer-owned land.

Nonresident.—An owner living 50 miles or more from the nearest forest tract owned.

Ownership size class.—The amount of commercial forest land owned by one owner, regardless of the number or parcels.

Ownership unit.—Forested property owned by one owner regardless of the number of tracts or parcels involved. The amount of forest land declared by the respondent to be owned by the person, estate, partnership, corporation, club or association to whom the questionnaire was addressed.

Owner tenure.—The length of time a property has been held by the owner.

Posted land.—Ownerships displaying signs indicating public trespass or admittance is not allowed.

Private commercial forest land.—All commercial forest land other than that owned by federal, state, or local governments or their agencies.

Pulpwood.—Any log from which woodpulp is to be made; usually measured in bolts of 4, 5, or 8 feet, and somewhat smaller in diameter than saw logs or veneer logs.

Resident.—An owner living less than 25 miles from the nearest tract owned.

Sawtimber trees.—Live trees of commercial species that are (a) at least 9 inches in d.b.h. for softwoods or 11 inches for hardwoods, and (b) that contain at least one 12-foot or two noncontiguous 8-foot merchantable saw logs, and that meet regional specifications for freedom from defect.

Selection system.—The method of harvesting and regenerating timber in which trees of all sizes are harvested. However, in practice, frequently only the oldest or largest trees in a stand are harvested. Trees are taken singly or in small groups, but the entire stand is never cleared completely in a single operation.

Softwoods.—Coniferous trees, usually evergreen, with needles or scalelike leaves.

Stand.—A growth of trees on forest land.

Timber removals.—The volume of timber harvested in logging or in cultural operations such as timber stand improvement, land clearing, or changes in land use.

Timber salvage.—Removals of down, damaged, or diseased trees.

Veneer log.—Any log from which veneer is to be made, by peeling (rotary cutting) or slicing.

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Table 1.—Estimated number of private ownership units and area of commercial forest land owned, by size class and forest survey unit, Minnesota, 1982

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Table 49.—Estimated number of private ownership units and acres of commercial forest land owned, by availability for recreation, Minnesota, 1982

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Table 54.—Estimated number of private ownership units and acres of commercial forest land owned, by whether land is posted and forest survey unit, Minnesota, 1982

Table 55.—Estimated number of private ownership units and acres of commercial forest land owned, by reason for posting and public use permitted, Minnesota, 1982

Table 1.--Estimated number of private ownership units and area of commercial forest land owned, by size class and forest survey unit, Minnesota, 1982

Size class (acres)	Aspen-Birch		Northern Pine		Central Hardwood		Prairie		Total		Sampling error
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Percent
					OWNERS						
1-9	13,500	45	13,600	29	8,100	23	9,250	50	44,450	34	18
10-29	6,350	21	14,100	30	9,900	29	4,600	25	34,950	27	8
30-49	4,350	15	7,700	16	6,000	17	1,950	11	20,000	15	6
50-69	1,600	5	2,850	6	2,800	8	900	5	8,150	6	8
70-99	1,900	6	3,900	8	3,800	11	850	4	10,450	8	6
100-199	1,900	6	3,650	8	3,050	9	800	4	9,400	7	5
200-499	550	2	1,400	3	1,000	3	200	1	3,150	3	6
500-999	50	*	100	*	50	*	*	*	200	*	16
1000-4999	*	*	50	*	*	*	*	*	50	*	22
Total	30,200	100	47,350	100	34,700	100	18,550	100	130,800	100	6
					ACRES OWNED						
1-9	36,400	4	60,900	3	45,550	23	37,250	50	180,100	4	13
10-29	106,950	11	224,850	11	170,900	29	74,500	25	577,200	11	7
30-49	163,800	17	281,100	14	220,300	17	71,600	11	736,800	15	6
50-69	91,000	9	168,650	8	155,750	8	51,550	5	466,950	9	8
70-99	152,400	15	313,850	16	300,050	11	65,900	4	832,200	16	6
100-199	243,400	24	463,750	23	387,450	9	100,250	4	1,194,850	23	5
200-499	150,150	15	379,400	19	269,700	3	57,300	1	856,550	17	6
500-999	34,100	3	79,650	4	34,200	*	5,700	*	153,650	3	15
1000-4999	18,200	2	51,500	2	26,600	*	5,750	*	102,050	2	21
Total	996,400	100	2,023,650	100	1,610,500	100	469,800	100	5,100,350	100	0.65

* Fewer than 25 owners or less than 0.5 percent.

Table 2.--Estimated number of private ownership units and acres of commercial forest land owned, by number of tracts and forest survey unit, Minnesota, 1982

Number of tracts	Aspen-Birch		Northern Pine		Central Hardwood		Prairie		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
1	25,850	86	38,350	81	25,100	72	13,450	73	102,750	78
2	2,300	8	4,900	10	6,300	18	3,200	17	16,700	13
3 or more	1,900	6	4,100	9	3,300	10	1,900	10	11,200	9
No answer	150	*	-	-	-	-	-	-	150	*
Total	30,200	100	47,350	100	34,700	100	18,550	100	130,800	100
					ACRES OWNED					
1	605,150	61	1,321,000	65	979,950	61	234,900	50	3,141,000	62
2	195,650	19	374,750	19	364,650	23	111,700	24	1,046,750	20
3 or more	186,500	19	327,900	16	265,900	16	123,200	26	903,500	18
No answer	9,100	0	-	-	-	-	-	-	9,100	*
Total	996,400	100	2,023,650	100	1,610,500	100	469,800	100	5,100,350	100

* Less than 0.5 percent.

Table 3.--Estimated number of private ownership units and acres of commercial forest land owned, by distance from residence to nearest forest tract and forest survey unit, Minnesota, 1982

Distance from residence (miles)	Aspen-Birch			Northern Pine			Central Hardwood			Prairie			Total		
	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)
							OWNERS								
0-24	21,900	73	20	32,800	69	13	26,150	76	10	12,600	68	15	93,450	71	8
25-49	700	2	28	1,750	4	36	450	1	37	1,000	5	66	3,900	3	25
50+	6,100	20	17	10,000	21	18	5,300	15	19	1,550	9	53	22,950	18	10
No answer	1,500	5	30	2,800	6	32	2,800	8	37	3,400	18	84	10,500	8	34
Total	30,200	100	15	47,350	100	10	34,700	100	9	18,550	100	19	130,800	100	6
							ACRES OWNED								
0-24	589,200	59	2	1,353,800	67	5	1,158,500	72	5	409,650	87	8	3,511,150	69	2
25-49	52,300	5	21	70,250	3	26	45,600	3	29	11,450	2	50	179,600	4	13
50+	284,350	29	9	477,800	24	10	330,450	20	10	37,250	8	28	1,129,850	22	5
No answer	70,550	7	19	121,800	6	19	75,950	5	22	11,450	3	50	279,750	5	11
Total	996,400	100	.76	2,023,650	100	1.16	1,610,500	100	1.59	469,800	100	3.29	5,100,350	100	.65

Table 4.--Estimated number of private owners and acres of commercial forest land owned, by distance from residence to nearest forest tract and size class of ownership, Minnesota, 1982

Distance from residence (miles)	Size class of ownership									
	1-49 Acres		50-99 Acres		100-499 Acres		500+ Acres		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
0-24	71,150	72	12,950	70	9,200	73	150	60	93,450	71
25-49	2,900	3	600	3	400	3	*	*	3,900	3
50+	16,150	16	4,350	23	2,350	19	100	40	22,950	18
No answer	9,200	9	700	4	600	5	*	*	10,500	8
Total	99,400	100	18,600	100	12,550	100	250	100	130,800	100
					ACRES OWNED					
0-24	1,007,450	68	885,650	68	1,486,750	73	131,300	51	3,511,150	69
25-49	54,150	3	47,700	4	67,900	3	9,850	4	179,600	4
50+	317,250	21	315,900	24	405,300	20	91,400	36	1,129,850	22
No answer	115,250	8	49,900	4	91,450	4	26,150	9	279,750	5
Total	1,494,100	100	1,299,150	100	2,051,400	100	255,700	100	5,100,350	100

* Fewer than 25 owners or less than 0.5 percent.

Table 5.--Estimated number of private ownership units and acres of commercial forest land owned, by distance from residence, Minnesota, 1982

Distance from residence (miles)	Owners of one tract		Owners of more than 1 tract			
			Distance to:			
			Nearest tract		Farthest tract	
	Number	Percent	Number	Percent	Number	Percent
			OWNERS			
0-24	71,800	70	21,650	78	15,500	56
25-49	3,150	3	750	2	1,550	5
50+	17,900	17	5,050	18	6,800	24
No answer	9,900	10	450	2	4,050	15
Total	102,750	100	27,900	100	27,900	100
			ACRES OWNED			
0-24	2,046,800	65	1,464,350	75	1,034,150	53
25-49	124,600	4	55,000	3	152,000	8
50+	741,100	24	388,750	20	500,100	26
No answer	228,500	7	51,350	2	263,950	13
Total	3,141,000	100	1,950,250	100	1,950,250	100

Table 6.--Estimated number of private owners of more than one tract and acres of commercial forest land owned, by distance from residence to farthest tract and forest survey unit, Minnesota, 1982

Distance to farthest tract (miles)	Aspen-Birch		Northern Pine		Central Hardwood		Prairie		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
0-24	1,700	41	4,000	44	5,950	62	3,850	75	15,500	56
25-49	650	15	350	3	200	2	350	7	1,550	5
50+	1,550	38	3,600	40	1,550	16	100	2	6,800	24
No answer	300	7	1,050	13	1,900	20	800	16	4,050	15
Total	4,200	100	9,000	100	9,600	100	5,100	100	27,900	100
					ACRES OWNED					
0-24	166,100	44	341,950	49	345,650	55	180,450	77	1,034,150	53
25-49	45,500	12	60,900	9	34,200	5	11,450	5	152,050	8
50+	147,850	38	220,150	31	117,750	19	14,350	6	500,100	26
No answer	22,750	6	79,650	11	132,900	21	28,650	12	263,950	13
Total	382,200	100	702,650	100	630,500	100	234,900	100	1,950,250	100

Table 7.--Estimated number of private ownerships and acres of commercial forest land owned, by date of acquisition and form of ownership, Minnesota, 1982

Year acquired	Individuals		Others		No answer		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
				OWNERS				
1980-1982	4,600	4	450	8	-	-	5,050	4
1970-1979	46,600	39	1,450	26	50	1	48,100	37
1960-1969	26,100	22	1,400	26	-	-	27,500	21
1950-1959	16,100	13	400	7	-	-	16,500	13
1940-1949	12,750	11	250	5	-	-	13,000	10
Prior to 1940	9,100	7	1,050	19	-	-	10,150	7
No answer	4,750	4	500	9	5,250	99	10,500	8
Total	120,000	100	5,500	100	5,300	100	130,800	100
				ACRES OWNED				
1980-1982	131,000	3	5,750	1	-	-	136,750	3
1970-1979	1,492,700	32	117,450	30	2,850	5	1,613,000	32
1960-1969	1,111,550	24	92,050	23	-	-	1,203,600	23
1950-1959	724,200	16	45,700	11	-	-	769,900	15
1940-1949	603,200	13	26,200	7	-	-	629,400	12
Prior to 1940	369,050	8	75,750	19	-	-	444,800	9
No answer	211,350	4	35,100	9	56,450	95	302,900	6
Total	4,643,050	100	398,000	100	59,300	100	5,100,350	100

Table 8.--Estimated number of private ownership units and acres of commercial forest land owned, by form of ownership and forest survey unit, Minnesota, 1982

Form of ownership	Aspen-Birch		Northern Pine		Central Hardwood		Prairie		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Individual	29,550	98	45,400	96	30,750	89	14,300	77	120,000	92
Partnership	*	*	500	1	650	2	300	2	1,450	1
Corporation	200	1	1,000	2	300	1	400	2	1,900	2
Club/ass'n	*	*	350	1	-	-	-	-	350	*
Trust	-	-	-	-	50	*	-	-	50	*
Undivided estate	350	1	100	*	1,000	3	300	2	1,750	1
No answer	100	*	-	-	1,950	5	3,250	17	5,300	4
Total	30,200	100	47,350	100	34,700	100	18,550	100	130,800	100
					ACRES OWNED					
Individual	928,200	93	1,840,950	91	1,458,550	90	415,350	89	4,643,050	91
Partnership	4,550	1	70,250	3	56,950	4	20,100	4	151,850	3
Corporation	29,550	3	60,900	3	15,200	1	11,450	3	117,100	2
Club/ass'n	2,250	*	32,800	2	-	-	-	-	35,050	1
Trust	-	-	-	-	15,200	1	-	-	15,200	*
Undivided estate	18,200	2	18,750	1	30,400	2	11,450	2	78,800	2
No answer	13,650	1	-	-	34,200	2	11,450	2	59,300	1
Total	996,400	100	2,023,650	100	1,610,500	100	469,800	100	5,100,350	100

* Less than 0.5 percent.

Table 9.--Estimated number of farm and non-farm ownership units and acres commercial forest land owned, by form of ownership, Minnesota 1982

Form of ownership	Farm				Non-farm				Total			
	Owners	Percent	Acres	Percent	Owners	Percent	Acres	Percent	Owners	Percent	Acres	Percent
Individuals	38,100	96	1,958,300	94	81,900	90	2,684,750	89	120,000	92	4,643,050	91
Business and group ownerships												
Partnerships	700	2	79,450	4	750	1	72,400	2	1,450	1	151,850	3
Corporations	300	1	30,100	1	1,600	2	87,000	3	1,900	1	117,100	2
Clubs/ass'n	-	-	-	-	350	*	35,050	1	350	*	35,050	1
Trusts	-	-	-	-	50	*	15,200	1	50	*	15,200	*
Estates	50	*	4,700	*	1,700	2	74,100	2	1,750	1	78,800	1
Subtotal	1,050	3	114,250	5	4,450	5	283,750	9	5,500	4	398,000	8
No answer	250	1	6,650	*	5,050	5	52,650	2	5,300	4	59,300	1
All owners	39,400	100	2,079,200	100	91,400	100	3,021,150	100	130,800	100	5,100,350	100

* Less than 0.5 percent

Table 10.--Estimated number of business or group ownerships by nature of business and form of ownership, Minnesota, 1982

Nature of business	Form of ownership											
	Partnerships		Corporations		Clubs/ass'n		Trusts		Estates		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	OWNERS											
Nonforest industry	-	-	50	3	-	-	-	-	-	-	50	1
Nonindustrial business	100	13	650	41	-	-	-	-	-	-	750	17
Real estate/speculation	250	33	100	6	-	-	-	-	-	-	350	8
Recreation development	-	-	350	22	-	-	-	-	-	-	350	8
Timber management	*	*	-	-	-	-	-	-	-	-	*	*
Sports/recreation clubs	200	27	100	6	250	72	*	*	-	-	550	13
Conservation clubs	-	-	-	-	-	-	50	100	-	-	50	1
Youth organizations	-	-	-	-	50	14	*	*	-	-	50	1
Churches	-	-	50	3	50	14	-	-	-	-	100	2
Educational institutions (nonpublic)	-	-	-	-	-	-	-	-	-	-	-	-
Estates	-	-	-	-	-	-	-	-	1,700	100	1,700	38
No answer	200	27	300	19	-	-	-	-	-	-	500	11
Nonfarm subtotal	750	100	1,600	100	350	100	50	100	1,700	100	4,450	100
Farms	700		300		-		-		50		1,050	
Total	1,450	26	1,900	35	350	6	50	1	1,750	32	5,500	100

* Fewer than 25 owners or less than 0.5 percent

Table 11.--Estimated acres of commercial forest land in business or group ownerships by nature of business and form of ownership, Minnesota, 1982

Nature of business	Form of ownership											
	Partnerships		Corporations		Clubs/ass'n		Trusts		Estates		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	ACRES OWNED											
Nonforest industry	-	-	6,950	8	-	-	-	-	-	-	6,950	2
Nonindustrial business	4,700	6	14,500	17	-	-	-	-	-	-	19,200	7
Real estate/speculation	33,950	47	13,150	15	-	-	-	-	-	-	47,100	17
Recreation development	-	-	30,150	35	-	-	-	-	-	-	30,150	11
Timber management	9,350	13	-	-	-	-	-	-	-	-	9,350	3
Sports/recreation clubs	7,600	11	10,750	12	9,350	27	3,800	25	-	-	31,500	11
Conservation clubs	-	-	-	-	-	-	7,600	50	-	-	7,600	3
Youth organizations	-	-	-	-	9,350	46	3,800	25	-	-	13,150	5
Churches	-	-	2,250	3	16,350	27			-	-	18,600	6
Educational institutions (nonpublic)	-	-	-	-	-	-	-	-	-	-	-	-
Estates	-	-	-	-	-	-	-	-	74,100	100	74,100	26
No answer	16,800	23	9,250	10	-	-	-	-	-	-	26,050	9
Nonfarm subtotal	72,400	100	87,000	100	35,050	100	15,200	100	74,100	100	283,750	100
Farms	79,450		30,100		-		-		4,700		114,250	
Total	151,850	38	117,100	29	35,050	9	15,200	4	78,800	20	398,000	100

Table 12.--Estimated number of individual owners and acres of commercial forest land owned, by occupation and forest survey unit, Minnesota, 1982

Occupation	Aspen-Birch		Northern Pine		Central Hardwood		Praire		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Professional	4,550	15	5,350	12	2,650	8	600	3	13,150	11
Executive	1,000	3	6,450	14	1,900	6	1,300	7	10,650	8
Retired	7,400	25	10,500	22	7,000	21	3,650	21	28,100	22
White collar	2,900	10	4,500	10	1,900	6	750	4	10,050	8
Skilled trade	5,950	20	2,100	5	4,100	13	450	3	12,600	10
Homemaker	950	3	200	*	850	5	850	5	2,850	3
Farmer	750	3	5,850	13	8,800	27	3,900	23	19,300	16
Logger	800	3	100	*	-	-	-	-	900	1
Unskilled laborer	3,800	13	7,700	17	1,250	4	1,350	8	14,100	11
No answer	1,450	5	3,100	7	2,300	10	1,450	26	8,300	10
Total	29,550	100	45,400	100	30,750	100	14,300	100	120,000	100
					ACRES OWNED					
Professional	172,900	18	196,750	11	174,700	12	25,800	6	570,150	12
Executive	79,600	9	262,350	14	117,750	8	31,500	8	491,200	10
Retired	227,500	24	346,650	19	269,700	18	85,950	20	929,800	20
White collar	63,700	7	159,250	9	113,950	8	22,900	5	359,800	8
Skilled trade	143,300	15	112,450	6	140,550	12	25,750	6	422,050	9
Homemaker	25,050	3	23,400	1	22,800	2	17,200	4	88,450	2
Farmer	77,350	8	430,950	23	463,400	31	157,550	38	1,129,250	24
Logger	22,750	2	9,650	*	-	-	-	-	32,100	1
Unskilled laborer	34,150	4	178,000	10	60,750	4	20,050	5	292,950	6
No answer	81,900	10	121,800	7	94,950	7	28,650	8	327,300	8
Total	928,200	100	1,840,950	100	1,458,550	100	415,350	100	4,643,050	100

* Less than 0.5 percent.

Table 13.--Occupation of individual owners whose forest land is part of an active farm.

Occupation	Owners		Acres owned	
	Number	Percent	Number	Percent
Professional	950	2	75,250	4
Owner/executive	1,050	3	92,150	4
Retired	7,150	19	273,400	14
White collar	1,950	5	112,400	6
Skilled trade	3,150	8	125,600	6
Homemaker	1,400	4	22,200	1
Farmer	19,300	50	1,129,250	56
Logger	150	*	9,250	*
Laborer	950	2	77,450	4
No answer	2,500	6	92,250	5
Total	38,550	100	2,009,200	100

* Less than 0.5 percent.

Table 14.--Estimated number of individual owners and acres of commercial forest land owned, by age class and forest survey unit, Minnesota, 1982

Age class (years)	Aspen-Birch		Northern Pine		Central Hardwood		Prairie		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
0-24	50	*	500	1	500	2	100	1	1,150	1
25-44	9,250	31	17,500	39	8,350	27	3,000	21	38,100	32
45-64	11,400	39	16,500	36	13,800	45	5,700	40	47,400	40
65+	7,250	25	9,050	20	6,650	22	4,150	29	27,100	22
No answer	1,600	5	1,850	4	1,450	4	1,350	9	6,250	5
Total	29,550	100	45,400	100	30,750	100	14,300	100	120,000	100
					ACRES OWNED					
0-24	2,300	*	28,100	2	19,000	1	5,700	2	55,100	1
25-44	234,300	25	529,350	29	349,450	24	88,800	21	1,201,900	26
45-64	432,250	47	875,950	47	729,300	50	86,200	45	2,223,700	48
65+	209,300	23	351,350	19	296,250	20	108,850	26	965,750	21
No answer	50,050	5	56,200	3	64,550	5	125,800	6	196,600	4
Total	928,200	100	1,840,950	100	1,458,550	100	415,350	100	4,643,050	100

* Less than 0.5 percent.

Table 15.--Estimated number of individual owners and acres of commercial forest land owned, by years of formal education, Minnesota, 1982

Education	Individual owners			Acres owned		
	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)
1-8 years	22,300	19	12	860,300	19	6
9-12 years	38,700	32	15	1,247,250	27	5
1-4 years of college	39,400	33	8	1,692,400	36	4
More than 4 years of college	12,500	10	17	623,700	13	7
No answer	7,100	6	41	219,400	5	11
Total	120,000	100	7	4,643,050	100	1

Table 16.--Estimated number of individual owners and acres of commercial forest land owned, by annual income class and forest survey unit, Minnesota, 1982

Annual income	Aspen-Birch		Northern Pine		Central Hardwood		Prairie		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Under $10,000	4,400	15	9,800	22	7,750	25	2,050	14	24,000	20
$10-$14,999	1,650	5	6,650	15	3,350	11	1,900	13	13,550	11
$15-$19,999	4,250	14	6,800	15	2,950	9	1,450	10	15,450	13
$20-$24,999	5,900	20	5,850	13	2,750	9	1,450	10	15,950	13
$25-$29,999	2,050	7	3,800	8	2,400	8	350	3	8,600	7
$30-$39,999	1,050	4	2,050	5	3,050	10	2,050	14	8,200	7
$40,000+	2,400	8	4,300	9	5,150	17	2,850	20	14,700	12
No answer	7,850	27	6,150	13	3,350	11	2,200	16	19,550	17
Total	29,550	100	45,400	100	30,750	100	14,300	100	120,000	100
					ACRES OWNED					
Under $10,000	200,200	22	290,400	16	269,700	18	51,550	12	811,850	18
$10-$14,999	81,900	9	234,200	13	129,150	9	60,150	15	505,400	11
$15-$19,999	122,850	13	201,450	11	148,100	10	45,850	11	518,250	11
$20-$24,999	116,000	12	243,600	13	132,950	9	40,100	10	532,650	11
$25-$29,999	68,250	7	178,000	10	125,350	9	17,200	4	388,800	8
$30-$30,999	72,800	8	149,900	8	117,750	8	28,650	7	369,100	8
$40,000+	129,700	14	267,000	14	410,200	28	120,300	29	927,200	20
No answer	136,500	15	276,400	15	125,350	9	51,550	12	589,800	13
Total	928,200	100	1,840,950	100	1,458,550	100	415,350	100	4,643,050	100

Table 17.--Estimated number of individual owners and acres of commercial forest land owned, by early life environment and forest survey unit, Minnesota, 1982

Early life environment	Aspen-Birch		Northern Pine		Central Hardwood		Prairie		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
City over 100,000	6,500	22	5,650	12	3,400	11	100	1	15,650	13
City 10,000-99,999	3,050	10	2,550	6	2,350	8	1,700	12	9,650	8
City less than 10,000	5,150	17	5,050	11	3,050	10	550	4	13,800	11
Rural area	3,750	13	10,100	22	3,050	10	2,250	16	19,150	15
Farm	9,050	31	18,100	40	17,150	56	8,200	57	52,500	44
No answer	2,050	7	3,950	9	1,750	5	1,500	10	9,250	8
Total	29,550	100	45,400	100	30,750	100	14,300	100	120,000	100
					ACRES OWNED					
City over 100,000	163,800	18	215,500	12	174,700	12	2,850	1	556,850	12
City 10,000-99,999	102,350	11	107,750	6	106,350	7	17,200	4	333,650	7
City less than 10,000	104,650	11	243,550	13	144,350	10	20,050	5	512,600	11
Rural area	138,800	15	290,400	16	117,800	8	34,350	8	581,350	13
Farm	350,350	38	861,950	47	839,400	58	312,250	75	2,363,950	51
No answer	68,250	7	121,800	6	75,950	5	28,650	7	294,650	6
Total	928,200	100	1,840,950	100	1,458,550	100	415,350	100	4,643,050	100

Table 18.--Estimated number of private ownership units and acres of commercial forest land owned, by primary and secondary reason for owning, Minnesota, 1982

Reason for owning	Primary reason			Secondary reason		
	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)
			OWNERS			
Land investment	7,400	6	16	2,850	2	17
Nonmotorized recreation	16,400	12	11	14,350	11	13
Motorized recreation	200	*	49	4,350	3	20
Firewood sale	850	1	32	1,550	1	29
Product sales	750	1	30	1,200	1	21
Own use firewood	19,200	15	12	16,050	12	12
Own use products	1,650	1	23	6,850	5	15
Esthetic enjoyment	21,200	16	16	17,400	13	23
Part of farm	13,500	10	11	7,750	6	23
Part of my residence	31,050	24	19	10,250	8	29
Second home or cabin	4,750	4	26	6,150	5	24
Potential mineral value	650	*	32	900	1	31
Other	5,800	4	24	1,000	1	26
No answer	7,400	6	45	40,150	31	15
Total	130,800	100	6	130,800	100	6
			ACRES OWNED			
Land investment	508,200	10	8	225,600	5	12
Nonmotorized recreation	827,650	16	6	622,600	12	7
Motorized recreation	19,100	*	41	211,300	4	13
Firewood sale	63,900	1	23	106,750	2	18
Product sales	81,500	1	21	159,300	3	15
Own use firewood	772,300	15	6	761,800	15	6
Own use products	112,350	2	18	398,500	8	9
Esthetic enjoyment	612,550	12	7	496,450	10	8
Part of farm	724,850	14	6	278,400	6	11
Part of residence	720,450	14	6	265,250	5	11
Second home or cabin	186,800	4	13	213,700	4	13
Potential mineral value	38,350	1	28	54,100	1	23
Other	249,050	5	12	68,600	1	23
No answer	183,300	3	13	1,241,150	24	5
Total	5,100,350	100	.65	5,100,350	100	.65

* Less than 0.5 percent.

Table 19.--Estimated number of private ownership units and acres of commercial forest land owned, by primary reason for owning and harvest history, Minnesota, 1982

Primary reason for owning	Owners			Acres owned		
	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)
			MAJOR HARVESTERS [1]			
Land investment	1,500	1	29	168,700	3	15
Nonmotorized recreation	5,150	4	19	266,250	5	11
Motorized recreation	50	*	65	9,250	*	58
Firewood sale	450	*	49	30,000	*	35
Product sales	500	*	31	64,650	1	25
Own use firewood	4,400	4	18	305,250	6	11
Own use products	1,450	1	26	90,850	2	21
Esthetic enjoyment	5,050	4	28	198,650	4	13
Part of farm	4,800	4	14	361,300	7	10
Part of residence	9,450	8	38	318,250	6	10
Second home or cabin	1,650	1	57	62,750	1	23
Potential mineral value	150	*	62	8,350	*	58
Other	2,550	2	44	109,700	2	18
No answer	1,150	1	36	61,500	1	23
Total	38,300	31	12	2,049,450	23	3
			NONHARVESTERS [2]			
Land investment	5,900	5	19	334,850	7	10
Nonmotorized recreation	11,250	9	13	561,400	11	8
Motorized recreation	150	*	62	9,850	*	58
Firewood sale	400	*	40	33,900	1	32
Product sales	250	*	64	16,850	*	45
Own use firewood	14,800	12	15	470,050	9	8
Own use products	150	*	51	17,700	*	45
Esthetic enjoyment	16,150	13	19	416,850	8	9
Part of farm	8,200	7	16	359,750	7	9
Part of residence	21,550	17	23	397,500	8	9
Second home or cabin	3,100	2	22	124,050	2	16
Potential mineral value	500	*	37	30,000	1	32
Other	3,100	2	27	133,300	3	16
No answer	1,400	1	38	53,500	1	26
Total	86,900	69	8	2,959,550	59	2
			ALL RESPONDING OWNERS [3]			
Land investment	7,400	6	16	503,550	10	8
Nonmotorized recreation	16,400	13	11	827,650	16	6
Motorized recreation	200	*	49	19,100	*	41
Firewood sale	850	*	32	63,900	1	23
Product sales	750	*	30	81,500	2	22
Own use firewood	19,200	16	12	772,300	15	6
Own use products	1,600	1	24	108,550	2	19
Esthetic enjoyment	21,200	17	16	612,500	12	7
Part of farm	13,000	11	11	721,050	14	7
Part of residence	31,000	25	19	715,750	14	6
Second home or cabin	4,750	3	26	186,800	4	13
Potential mineral value	650	*	32	38,350	1	28
Other	5,650	5	24	243,000	5	12
No answer	2,550	2	26	115,000	2	17
Total	125,200	100	6	5,009,000	100	1

* Less than 0.5 percent.

[1] Includes owners who harvested 30 cords or more of firewood or products other than firewood.

[2] Includes non harvesters and those who harvested less than 30 cords of firewood only.

[3] Excludes those who did not answer harvest question.

Table 20.--Estimated number of private ownership units and acres of commercial forest land owned, by primary reason for owning and forest survey unit, Minnesota, 1982

Primary reason for owning	Aspen-Birch			Northern Pine			Central Hardwood			Prairie			Total		
	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)
							OWNERS								
Land investment	2,050	7	24	2,800	6	27	2,350	7	35	200	1	49	7,400	6	16
Nonmotor recreation	3,200	11	19	7,350	15	16	4,000	12	19	1,850	10	41	16,400	12	11
Motorized recreation	100	*	70	*	*	100	100	*	71	-	-	-	200	*	49
Firewood sale	50	*	59	300	1	58	400	1	55	100	1	59	850	1	32
Product sales	100	*	40	400	1	45	250	1	59	-	-	-	750	1	31
Own use firewood	1,700	6	25	3,800	8	18	9,200	26	20	4,500	24	28	19,200	15	13
Own use products	200	1	53	850	2	35	600	2	44	*	*	100	1,650	1	24
Esthetic enjoyment	3,200	11	24	12,450	26	28	2,600	7	25	2,950	16	39	21,200	16	16
Part of farm	1,150	4	23	2,700	6	25	6,250	18	17	3,400	18	26	13,500	10	11
Part of residence	14,300	47	30	11,250	24	22	3,850	11	29	1,650	9	33	31,050	24	19
Second home, cabin	2,200	7	39	1,450	3	37	1,000	3	43	100	1	79	4,750	4	26
Mineral value	350	1	39	250	*	64	50	*	100	-	-	-	650	*	32
Other	750	2	38	2,450	5	51	2,000	6	41	600	3	43	5,800	4	24
No answer	850	3	26	1,300	3	36	2,050	6	46	3,200	17	89	7,400	6	45
Total	30,200	100	15	47,350	100	10	34,700	100	9	18,550	100	19	130,800	100	6
							ACRES OWNED								
Land investment	116,000	12	14	215,500	11	15	159,500	10	15	17,200	4	41	508,200	10	8
Nonmotor recreation	159,250	16	12	379,450	19	11	231,650	14	13	57,300	12	22	827,650	16	6
Motorized recreation	6,850	*	58	4,650	*	100	7,600	1	71	-	-	-	19,100	*	41
Firewood sale	9,100	1	50	23,400	1	45	22,800	1	41	8,600	2	58	63,900	1	23
Product sales	25,000	2	35	37,500	2	35	19,000	1	45	-	-	-	81,500	2	22
Own use firewood	77,350	8	17	262,350	13	13	326,650	20	10	105,950	23	16	772,300	15	6
Own use products	18,200	2	41	60,900	3	28	30,400	2	35	2,850	1	100	112,350	2	19
Esthetic enjoyment	136,500	14	13	281,050	14	13	140,550	9	16	54,450	11	23	612,550	12	7
Part of farm	77,350	8	18	196,750	10	15	330,450	21	10	120,300	26	15	724,850	14	7
Part of residence	188,800	19	11	313,850	15	12	163,350	10	15	54,450	11	23	720,450	14	6
Second home, cabin	61,400	6	19	70,250	3	26	49,400	3	28	5,750	1	71	186,800	4	13
Mineral value	20,500	2	33	14,050	1	58	3,800	*	100	-	-	-	38,350	1	28
Other	43,250	4	23	98,350	5	22	75,950	5	22	31,500	7	30	249,050	5	12
No answer	56,850	6	21	65,600	3	27	49,400	3	28	11,450	2	50	183,300	4	13
Total	996,400	100	0.76	2,023,650	100	1.16	1,610,500	100	1.59	469,800	100	3.29	5,100,350	100	0.65

* Fewer than 25 owners or less than 0.5 percent.

Table 21.--Estimated number of private ownership units and acres of commercial forest land owned, by primary reason for owning and expected time of future harvest, Minnesota, 1982

Reason for owning	Expected time of future harvest									
	Next 10 years		Indefinite		Never		No answer		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Land investment	2,500	7	3,200	9	1,500	4	200	1	7,400	6
Nonmotorized recreation	4,750	12	6,950	19	4,200	10	500	3	200	*
Motorized recreation	100	*	*	*	100	*	*	*	200	*
Firewood sale	400	1	50	*	100	*	300	2	850	1
Product sales	450	1	300	1	-	-	*	*	750	1
Own use firewood	8,300	22	5,100	14	4,450	11	1,350	9	19,200	15
Own use products	850	2	400	1	100	*	300	2	1,650	1
Esthetic enjoyment	7,300	19	4,300	12	8,300	20	1,300	9	21,200	16
Part of farm	3,500	9	5,200	14	3,150	8	1,650	11	13,500	10
Part of residence	7,250	19	7,650	21	13,600	34	2,550	17	31,050	24
Second home/cabin	900	2	1,450	4	2050	5	350	2	4,750	4
Mineral value	50	*	550	1	*	*	50	*	650	*
Other	1,350	4	1,150	3	2,650	7	650	4	5,800	4
No answer	650	2	500	1	350	1	5,900	39	7,400	6
Total	38,350	100	36,800	100	40,550	100	15,100	100	130,800	100
					ACRES OWNED					
Land investment	187,500	9	202,700	12	105,750	12	12,250	3	508,200	10
Nonmotorized recreation	294,900	14	368,000	22	145,700	16	19,050	5	827,650	16
Motorized recreation	6,050	*	2,300	*	6,050	1	4,700	1	19,100	*
Firewood sale	38,150	2	11,200	1	3,800	*	10,750	3	63,900	1
Product sales	53,650	2	23,150	1	-	-	4,700	1	81,500	2
Own use firewood	435,100	20	171,500	10	110,150	12	55,550	15	772,300	15
Own use products	67,050	3	25,400	2	8,500	1	11,400	3	112,350	2
Esthetic enjoyment	231,200	11	202,300	12	157,300	18	21,750	6	612,550	12
Part of farm	325,200	15	241,550	15	104,250	12	53,850	14	724,850	14
Part of residence	346,400	16	215,650	13	121,000	13	37,400	10	720,450	14
Second home/cabin	61,950	3	63,350	4	44,650	5	16,850	4	186,800	4
Mineral value	4,550	*	26,800	2	2,300	*	4,700	1	38,350	1
Other	73,750	3	88,650	5	63,200	7	23,450	6	249,050	5
No answer	34,700	2	14,400	1	25,950	3	108,250	28	183,300	4
Total	2,160,150	100	1,656,950	100	898,600	100	384,650	100	5,100,350	100

* Fewer than 25 owners or less than 0.5 percent.

Table 22.--Estimated number of private ownership units and acres of commercial forest land owned, by primary benefit received in the last 5 years and harvest history, Minnesota, 1982

Primary benefit	Major harvesters		Minor harvesters		Did not harvest		No answer		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Land investment	3,350	9	2,600	7	7,550	15	100	2	13,600	10
Nonmotor recreation	4,500	12	4,400	12	6,300	13	-	-	15,200	12
Motorized recreation	650	2	400	1	200	*	-	-	1,250	1
Firewood sales	400	1	300	1	250	1	-	-	950	1
Product sales	1,200	3	100	*	-	-	-	-	1,300	1
Own use firewood	7,700	20	13,550	37	5,000	10	50	1	26,300	20
Own use products	1,950	5	100	*	100	*	100	2	2,250	2
Esthetic enjoyment	12,850	33	10,850	30	16,200	32	50	1	39,950	30
No important benefit	1,800	5	500	1	7,900	16	-	-	10,200	8
Other	2,550	7	3,600	10	4,700	9	50	1	10,900	8
No answer	1,350	3	450	1	1,850	4	5,250	93	8,900	7
Total	38,300	100	36,850	100	50,050	100	5,600	100	130,800	100
					ACRES OWNED					
Land investment	367,650	18	190,900	13	335,100	22	6,950	8	900,600	18
Nonmotor recreation	259,200	13	227,600	15	322,100	22	-	-	808,900	16
Motorized recreation	21,050	1	18,000	1	15,300	1	-	-	54,350	1
Firewood sales	38,450	2	25,450	2	8,500	1	-	-	72,400	1
Product sales	105,950	5	3,800	*	-	-	-	-	109,750	2
Own use firewood	452,050	22	569,600	39	91,800	6	3,800	4	1,117,250	22
Own use products	122,800	6	10,750	1	11,400	1	3,800	4	148,750	3
Esthetic enjoyment	410,250	20	317,750	22	414,600	28	4,700	5	1,146,700	22
No important benefit	89,950	4	21,050	1	163,050	11	-	-	274,050	5
Other	105,050	5	62,700	4	64,400	4	3,800	4	235,950	5
No answer	77,050	4	23,600	2	62,700	4	68,300	75	231,650	5
Total	2,049,450	100	1,470,600	100	1,488,950	100	91,350	100	5,100,350	100

* Less than 0.5 percent.

Table 23.--Estimated number of private ownership units and acres of commercial forest land owned, by primary benefits expected in the next 5 years and harvest history, Minnesota, 1982

Primary benefit	Major harvesters		Minor harvesters		Did not harvest		No answer		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Land investment	4,200	11	2,850	8	8,300	17	100	2	15,500	12
Nonmotor recreation	3,400	9	4,350	12	5,450	11	-	-	13,200	10
Motorized recreation	150	*	250	1	400	1	-	-	800	1
Firewood sale	650	2	100	*	200	*	-	-	950	1
Product sales	1,050	3	300	1	100	*	-	-	1,450	1
Own use firewood	8,500	22	13,550	37	6,750	13	50	1	28,850	22
Own use products	1,700	4	100	*	250	*	100	2	2,150	2
Esthetic enjoyment	11,350	30	11,200	30	14,400	29	500	9	37,450	29
No important benefits	3,050	8	1,300	4	6,850	14	-	-	11,200	8
Retirement/emergency income	750	2	1,650	4	800	2	-	-	3,200	2
Develop other use	700	2	100	*	200	*	-	-	1,000	1
Other	1,100	3	750	2	3,900	8	50	1	5,800	4
No answer	1,650	4	350	1	2,450	5	4,800	85	9,250	7
Total	38,300	100	36,850	100	50,050	11	5,600	100	130,800	100
					ACRES OWNED					
Land investment	357,300	17	187,800	13	375,900	25	6,950	8	927,950	18
Nonmotor recreation	218,450	11	217,250	15	280,350	19	-	-	716,050	14
Motorized recreation	20,150	1	16,950	1	17,500	1	-	-	54,650	1
Firewood sale	70,200	3	19,400	1	10,450	1	-	-	100,050	2
Product sale	100,150	5	29,250	2	12,100	1	-	-	141,500	3
Own use firewood	503,450	25	538,500	37	142,200	10	3,800	4	1,187,950	23
Own use products	100,800	5	12,750	1	15,150	1	3,800	4	130,500	3
Esthetic enjoyment	313,300	15	283,800	19	353,100	24	8,500	9	960,700	19
No important benefits	97,150	5	25,650	2	102,350	7	-	-	225,150	4
Retirement/emergency income	63,900	3	46,800	3	54,350	4	-	-	165,050	3
Develop other use	25,850	1	6,950	*	-	-	-	-	39,750	1
Other	96,000	5	58,750	4	50,650	3	3,800	4	209,200	4
No answer	80,750	4	28,750	2	67,850	4	64,500	71	241,850	5
Total	2,049,450	100	1,470,600	100	1,488,950	100	91,350	100	5,100,350	100

* Less than 0.5 percent.

Table 24.--Estimated number of private ownership units and acres of commercial forest land owned, by primary benefit expected in next 5 years and expected time of future harvest, Minnesota, 1982

Primary benefit	Expected time of future harvest: Next 10 years Number	Next 10 years Percent	Indefinite Number	Indefinite Percent	Never Number	Never Percent	No answer Number	No answer Percent	Total Number	Total Percent
					OWNERS					
Land investment	4,200	11	5,500	15	4,750	12	1,050	7	15,500	12
Nonmotor recreation	3,750	10	5,500	15	3,500	9	450	3	13,200	10
Motorized recreation	250	1	100	*	400	1	50	*	800	1
Firewood sale	550	1	350	1	-	-	50	*	950	1
Product sales	1,000	3	400	1	-	-	50	*	1,450	1
Own use firewood	12,000	31	8,050	22	6,850	17	1,950	13	28,850	22
Own use products	1,550	4	550	2	50	*	*	*	2,150	2
Esthetic enjoyment	10,650	28	11,150	30	13,800	34	1,850	12	37,450	29
No important benefits	1,700	4	1,550	4	7,100	18	850	6	11,200	8
Retirement/emergency income	600	2	1,000	3	500	1	1,100	7	3,200	2
Develop for other use	250	1	200	1	-	-	550	4	1,000	1
Other	1,300	3	500	1	3,400	8	600	4	5,800	4
No answer	550	1	1,950	5	200	*	6,550	44	9,250	7
Total	38,350	100	36,800	100	40,550	100	15,100	100	130,800	100
					ACRES OWNED					
Land investment	375,950	17	327,300	20	163,000	18	61,700	16	927,950	18
Nonmotor recreation	261,050	12	308,500	19	122,700	14	23,800	6	716,050	14
Motorized recreation	19,250	1	13,050	1	13,000	1	9,350	2	54,650	1
Firewood sale	77,500	4	19,700	1	-	-	2,850	1	100,050	2
Product sales	119,400	5	17,400	1	-	-	4,700	1	141,500	3
Own use firewood	648,800	30	292,750	18	178,600	20	67,800	18	1,187,950	23
Own use products	86,150	4	36,750	2	3,800	*	3,800	1	130,500	3
Esthetic enjoyment	317,800	15	372,800	22	243,150	27	26,950	7	960,700	19
No important benefits	40,750	2	95,300	6	79,200	9	9,900	3	225,150	4
Retirement/emergency income	62,150	3	65,950	4	23,800	3	13,150	3	165,050	3
Develop for other use	24,300	1	6,950	*	-	-	8,500	2	39,750	1
Other	89,650	4	48,400	3	52,400	6	18,750	5	209,200	4
No answer	37,400	2	52,100	3	18,950	2	133,400	35	241,850	5
Total	2,160,150	100	1,656,950	100	898,600	100	384,650	100	5,100,350	100

* Fewer than 25 owners or less than 0.5 percent.

Table 25.--Estimated number of private ownership units and acres of commercial forest land owned, by form of ownership and harvest history, Minnesota, 1982

Form of ownership	Harvest history: Major harvesters Number	Major harvesters Percent	Minor harvesters Number	Minor harvesters Percent	Did not harvest Number	Did not harvest Percent	No answer Number	No answer Percent	Total Number	Total Percent
					OWNERS					
Individual	36,400	28	35,350	27	47,400	36	850	1	120,000	92
Part/corp	950	1	550	*	1,800	1	50	*	3,350	3
Club/ass'n	100	*	*	*	250	*	-	-	350	*
Trust	-	-	*	*	50	*	-	-	50	*
Estate	500	*	950	1	300	*	-	-	1,750	1
No answer	350	*	-	-	250	*	4,700	3	5,300	4
Total	38,300	29	36,850	28	50,050	38	5,600	4	130,800	100
					ACRES OWNED					
Individual	1,878,250	37	1,367,950	27	1,351,450	26	45,400	1	4,643,050	91
Part/corp	109,850	2	68,250	1	86,150	2	4,700	*	268,950	5
Club/ass'n	14,050	*	14,050	*	6,950	*	-	-	35,050	1
Trust	-	-	3,800	*	11,400	*	-	-	15,200	*
Estate	39,700	1	16,550	*	22,550	*	-	-	78,800	2
No answer	7,600	*	-	-	10,450	*	41,250	1	59,300	1
Total	2,049,450	40	1,470,600	29	1,488,950	29	91,350	2	5,100,350	100

* Fewer than 25 owners or less than 0.5 percent.

Table 26.--Estimated number of major harvests and acres of commercial forest land owned, by reason for harvesting and form of ownership, Minnesota, 1982

Reason for harvesting	Form of ownership							
	Individual		Partnership/ Corporation		Other		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
				MAJOR HARVESTERS				
For own use	10,750	29	100	11	150	16	11,000	29
Mature timber	4,150	11	150	16	50	5	4,350	11
Thinning, improvement	2,850	8	50	5	50	5	2,950	8
Salvage	6,800	19	250	26	350	37	7,400	19
Good price	950	3	*	*	*	*	950	2
Land clearing	2,500	7	200	21	*	*	2,700	7
Needed money	2,350	6	-	-	350	37	2,700	7
Wildlife habitat	400	1	-	-	-	-	400	1
Other	300	1	-	-	-	-	300	1
No answer	5,350	15	200	21	*	*	5,550	15
Total	36,400	100	950	100	950	100	38,300	100
				ACRES OWNED				
For own use	615,100	33	19,650	18	24,800	40	659,550	32
Mature timber	389,800	21	19,250	18	6,950	11	416,000	20
Thinning, improvement	136,400	7	13,150	12	4,700	8	154,250	8
Salvage	223,850	12	15,150	14	3,800	6	242,800	12
Good price	56,700	3	4,700	4	2,300	4	63,700	3
Land clearing	151,550	8	24,800	22	2,850	5	179,200	9
Needed money	172,250	9	-	-	12,150	20	184,400	9
Wildlife habitat	38,450	2	-	-	-	-	38,450	2
Other	25,550	1	-	-	-	-	25,550	1
No answer	68,600	4	13,150	12	3,800	6	85,550	4
Total	1,878,250	100	109,850	100	61,350	100	2,049,450	100

* Fewer than 25 owners or less than 0.5 percent.

Table 27.--Estimated number of private owners and acres of commercial forest land owned, by farm and nonfarm and harvest history, Minnesota, 1982

Harvest history	Private owners				Acres owned			
	Farm		Nonfarm		Farm		Nonfarm	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Major harvest	15,050	38	23,250	25	1,059,400	51	990,050	3
Minor harvest	13,600	34	23,250	25	663,350	32	807,250	27
No harvest	10,450	27	39,600	43	340,450	16	1,114,550	37
No answer	300	1	5,300	6	16,050	1	75,300	3
Total	39,400	100	91,400	100	2,079,200	100	3,021,150	100

Table 28.--Estimated number of minor harvesters and acres of commercial forest land owned, by reason for harvesting, Minnesota, 1982

Reason for harvesting	Number of owners		Acres owned	
	Number	Percent	Number	Percent
For own use	23,250	63	1,033,900	70
Mature timber	300	1	15,100	1
Thinning, improvement	1,550	4	38,300	3
Salvage	8,550	23	257,950	17
Good price	50	*	10,750	1
Land clearing	1,750	5	77,950	5
Needed money	50	*	3,800	*
Wildlife habitat	1,300	3	26,050	2
Other	*	*	2,250	*
No answer	50	*	4,550	*
Total	36,850	100	1,470,600	100

* Fewer than 25 owners or less than 0.5 percent.

Table 29.--Estimated number of private ownership units and acres of commercial forest land owned, by reason for not harvesting, Minnesota, 1982

Reason for not harvesting	Number of owners		Acres owned	
	Number	Percent	Number	Percent
		NONHARVESTERS		
Timber immature	5,650	11	121,000	8
No market	700	2	50,650	3
Low price	700	2	37,450	3
Poor quality	3,150	6	86,150	6
Low volume	5,900	12	60,650	4
Small area	4,200	8	36,350	3
Selling land	1,750	4	80,850	5
Land in estate	100	*	9,100	1
Destroy hunting	5,200	10	190,350	13
Ruin scenery	8,300	17	243,850	16
Distrust loggers	500	1	19,100	1
Opposed to logging	150	*	9,850	1
Create fire hazard	-	-	-	-
Saving for retirement	3,150	6	125,000	8
Legacy for heirs	1,150	2	65,300	4
Need more information	2,750	6	132,450	9
Other	3,700	7	137,850	9
No answer	3,000	6	83,000	6
Total	50,050	10	1,488,950	100

* Less than 0.5 percent.

Table 30.--Estimated number of individual owners and acres of commercial forest land owned, by occupation and expected time of future harvest, Minnesota, 1982

Occupation	Expected time of future harvest: 1 - 10 years		Indefinite		Never		No answer		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Professional	5,050	39	4,250	32	3,450	26	400	3	13,150	100
Executive	4,150	39	3,850	36	2,000	19	650	6	10,650	100
Retired	6,750	24	8,550	30	11,300	40	1,550	6	28,150	100
White collar	2,950	30	3,950	40	2,450	24	650	6	10,000	100
Skilled trade	2,700	21	4,400	35	5,000	39	650	5	12,750	100
Homemaker	800	22	350	10	950	26	1,550	42	3,650	100
Farmer	9,350	48	4,700	24	3,150	16	2,350	12	19,550	100
Logger	300	31	100	11	-	-	550	58	950	100
Unskilled laborer	3,600	26	2,400	17	7,950	56	200	1	14,150	100
No answer	1,750	14	1,850	15	2,600	21	6,100	50	12,300	100
Total	37,400	30	34,400	27	38,850	31	14,650	12	125,300	100
					ACRES OWNED					
Professional	263,850	46	203,850	36	76,900	13	25,550	5	570,150	100
Executive	229,650	46	175,700	36	76,050	15	13,600	3	495,000	100
Retired	328,500	35	277,600	30	255,400	27	72,050	8	933,550	100
White collar	149,800	42	132,050	36	64,050	18	13,950	4	359,850	100
Skilled trade	168,000	40	185,150	43	55,250	13	17,450	4	425,850	100
Homemaker	21,500	23	31,800	34	29,950	33	8,950	10	92,200	100
Farmer	596,550	52	312,500	28	137,100	12	89,800	8	1,135,950	100
Logger	20,660	64	9,250	29	-	-	2,250	7	32,100	100
Unskilled labor	147,050	50	83,750	28	51,100	17	13,900	5	295,800	100
No answer	114,150	32	95,050	26	54,700	15	98,000	27	361,900	100
Total	2,039,650	43	1,506,700	32	800,500	17	355,500	8	4,702,350	100

Table 31.--Estimated number of private ownership units and acres of commercial forest land owned, by size class and expected time of future harvest, Minnesota, 1982

Size class (acres)	Expected time of future harvest: 1 - 10 Years		Indefinite		Never		No answer		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
1 - 49 acres	24,750	25	26,150	26	35,400	36	13,100	13	99,400	100
50 - 99 acres	7,200	39	6,750	36	3,550	19	1,100	6	18,600	100
100 - 499 accres	6,300	50	3,850	31	1,550	12	850	7	12,550	100
500 + acres	100	40	50	20	50	20	50	20	250	100
Total	38,350	29	36,800	28	40,550	31	15,100	12	130,800	100
					ACRES OWNED					
1 - 49 acres	445,350	30	507,150	34	387,350	26	154,250	10	1,494,100	100
50 - 99 acres	510,750	39	466,850	36	248,300	19	73,250	6	1,299,150	100
100 - 499 acres	1,088,850	53	602,700	29	229,500	11	130,350	7	2,051,400	100
500 + acres	115,200	45	80,250	31	33,450	13	26,800	11	255,700	100
Total	2,160,150	42	1,656,950	32	898,600	18	384,650	8	5,100,350	100

Table 32.--Estimated number of major harvesters and acres of commercial forest land owned, by method of selecting timber and individual selecting timber, Minnesota, 1982

Method of selecting timber	Individual selecting timber							All major harvesters	
	Landowner	Forester	Friend or neighbor	Buyer	Landowner and forester	Landowner and buyer	No answer	Total Number	Percent
				MAJOR HARVESTERS					
Selection	5,500	1,350	50	350	150	550	-	7,950	21
Diameter limit	2,000	150	-	450	50	250	-	2,900	8
Clearcutting	2,000	50	-	100	*	200	-	2,350	6
Land clearing	1,350	-	-	-	50	50	-	1,450	4
Dead or dying	700	-	-	50	-	*	350	1,100	3
Windblown	150	-	-	-	-	-	-	150	*
Other	100	50	50	200	50	-	-	450	1
Don't know	250	-	-	200	-	-	-	450	1
No answer	12,250	350	250	1,050	50	450	7,100	21,500	56
Total	24,300	1,950	350	2,400	350	1,500	7,450	38,300	100
				ACRES OWNED					
Selection	251,750	65,350	3,750	19,400	20,650	37,450	-	398,350	20
Diameter limit	217,100	12,150	-	42,550	6,050	32,600	-	310,450	15
Clearcutting	122,250	9,850	-	14,400	6,950	15,200	-	168,650	8
Land clearing	56,250	-	-	-	3,800	3,800	-	63,850	3
Dead or dying	49,550	-	-	3,800	-	2,300	3,800	59,450	3
Windblown	2,300	-	-	-	-	-	-	2,300	*
Other	9,100	3,800	2,300	25,050	2,850	-	-	43,100	2
Don't know	12,750	-	-	15,200	-	-	-	27,950	1
No answer	625,050	42,050	18,750	63,750	14,050	41,250	170,450	975,350	48
Total	1,346,100	133,200	24,800	184,150	54,350	132,600	174,250	2,049,450	100

* Fewer than 25 owners or less than 0.5 percent.

Table 33.--Estimated number of major harvesters and acres of commercial forest land owned, by timber products harvested and size class of ownership, Minnesota, 1982 [1/]

Timber product	Size class of ownership									
	1 - 49 acres		50 - 99 acres		100-499 acres		500+ acres		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					MAJOR HARVESTERS					
Sawlogs	5,950	23	3,500	52	2,700	45	50	33	12,200	32
Veneer logs	1,050	4	500	7	350	6	*	*	1,900	5
Pulpwood	5,200	20	1,950	29	1,650	28	50	33	8,850	23
Posts, poles, pilings	3,050	12	650	10	700	12	*	*	4,400	11
Tie bolts	550	2	150	2	350	6	-	-	1,050	3
Christmas trees	1,250	5	200	3	300	5	50	33	1,800	5
Firewood	7,800	31	3,100	46	2,800	47	50	33	13,750	36
Other	600	2	-	-	150	2	*	*	750	2
Don't know	-	-	100	1	50	1	-	-	150	*
No answer	11,200	44	1,100	16	1,500	25	50	33	13,850	36
Total	25,500		6,700		5,950		150		38,300	
					ACRES OWNED					
Sawlogs	162,200	38	247,000	52	462,700	46	47,850	32	919,750	45
Veneer logs	36,000	8	32,150	7	75,100	7	3,800	2	147,050	7
Pulpwood	84,250	20	137,900	29	290,500	29	51,450	35	564,100	28
Posts, poles, pilings	64,350	15	42,000	9	122,050	12	11,350	8	239,750	12
Tie bolts	16,050	4	11,400	2	63,300	6	3,800	2	94,550	5
Christmas trees	16,800	4	15,300	3	47,400	5	22,550	15	102,050	5
Firewood	154,500	36	222,900	47	489,700	49	41,350	28	908,450	44
Other	9,850	2	3,800	1	26,500	3	3,800	2	43,950	2
Don't know	-	-	7,600	2	6,050	1	-	-	13,650	1
No answer	128,100	30	79,100	17	234,100	23	57,200	39	498,500	24
Total	423,000		474,550		1,004,150		147,750		2,049,450	

* Fewer than 25 owners or less than 0.5 percent.

[1/] Items do not add to total because some owners may have harvested more than one product.

Table 34.--Estimated number of private owners interested in an improvement cut and acres of commercial land owned, by distance from nearest tract, size class of ownership, and forest survey unit, Minnesota, 1982

Distance to tract (miles)	Size class of ownership									
	1 - 49 acres		50 - 99 acres		100-499 acres		500+ acres		All owners	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
					ASPEN-BIRCH UNIT					
0 - 24	4,600	57	800	49	800	52	50	100	6,250	55
25 - 49	250	3	100	6	50	3	-	-	400	4
50+	2,950	37	600	36	600	39	*	*	4,150	37
No answer	200	3	150	9	100	6	-	-	450	4
Total	8,000	100	1,650	100	1,550	100	50	100	11,250	100
					NORTHERN PINE UNIT					
0 - 24	8,150	56	2,400	59	2,400	75	100	67	13,050	59
25 - 49	1,350	9	100	2	50	1	-	-	1,500	7
50+	4,050	28	1,450	36	600	19	50	33	6,150	28
No answer	1,100	7	100	3	150	5	*	*	1,350	6
Total	14,650	100	4,050	100	3,200	100	150	100	22,050	100
					CENTRAL HARDWOOD UNIT					
0 - 24	8,050	73	2,500	67	2,100	71	*	*	12,650	71
25 - 49	200	2	200	5	100	3	*	*	500	3
50+	2,250	20	950	25	700	24	50	100	3,950	22
No answer	600	5	100	3	50	2	-	-	750	4
Total	11,100	100	3,750	100	2,950	100	50	100	17,850	100
					PRAIRIE UNIT					
0 - 24	3,500	75	1,000	95	700	88	*	*	5,200	80
25 - 49	1,000	21	-	-	*	*	-	-	1,000	15
50+	200	4	50	5	100	12	-	-	350	5
No answer	-	-	-	-	-	-	-	-	-	-
Total	4,700	100	1,050	100	800	100	*	*	6,550	100
					ALL UNITS					
0 - 24	24,300	63	6,700	64	6,000	70	150	60	37,150	64
25 - 49	2,800	7	400	4	200	2	*	*	3,400	6
50+	9,450	25	3,050	29	2,000	24	100	40	14,600	25
No answer	1,900	5	350	3	300	4	*	*	2,550	5
Total	38,450	100	10,500	100	8,500	100	250	100	57,700	100

(Table 34 continued on next page)

Table 34.--continued.

Distance to tract (miles)	Size class of ownership									
	1 - 49 acres		50 - 99 acres		100-499 acres		500+ acres		All owners	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					ACRES OWNED					
					ASPEN-BIRCH UNIT					
0 - 24	63,700	49	54,600	47	134,200	51	22,750	59	275,250	50
25 - 49	6,800	5	9,100	8	13,650	5	-	-	29,550	5
50+	52,300	41	43,200	37	102,400	39	15,950	41	213,850	39
No answer	6,850	5	9,100	8	13,650	5	-	-	29,600	6
Total	129,650	100	116,000	100	263,900	100	38,700	100	548,250	100
					NORTHERN PINE UNIT					
0 - 24	135,850	52	163,950	58	426,300	74	70,250	65	796,350	65
25 - 49	28,100	11	9,350	3	9,400	2	-	-	46,850	4
50+	79,650	30	103,050	37	112,450	19	32,750	31	327,900	27
No answer	18,750	7	4,700	2	28,050	5	4,700	4	56,200	4
Total	262,350	100	281,050	100	576,200	100	107,700	100	1,227,300	100
					CENTRAL HARDWOOD UNIT					
0 - 24	163,300	72	174,750	66	338.050	69	15,200	31	691,300	67
25 - 49	7,600	3	15,200	6	22,800	5	7,600	15	53,200	5
50+	45,600	20	68,350	26	117,750	24	26,600	54	258,300	25
No answer	11,350	5	7,600	2	11,400	2	-	-	30,350	3
Total	227,850	100	265,900	100	490,000	100	49,400	100	1,033,150	100
					PRAIRIE UNIT					
0 - 24	68,750	83	71,600	93	103,150	86	11,450	100	254,950	87
25 - 49	8,600	10	-	-	2,850	2	-	-	11,450	4
50+	5,750	7	5,750	7	14,300	12	-	-	25,800	9
No answer	-	-	-	-	-	-	-	-	-	-
Total	83,100	100	77,350	100	120,300	100	11,450	100	292,200	100
					ALL UNITS					
0 - 24	431,600	62	464,900	63	1,001,700	69	119,650	58	2,017,850	65
25 - 49	51,100	7	33,650	4	48,700	3	7,600	4	141,050	4
50+	183,300	26	220,350	30	346,900	24	75,300	36	825,850	27
No answer	36,950	5	21,400	3	53,100	4	4,700	2	116,150	4
Total	702,950	100	740,300	100	1,450,400	100	207,250	100	3,100,900	100

* Fewer than 25 owners or less than 0.5 percent.

Table 35.--Estimated number of private owners who never plan to harvest timber and acres of commercial forest land owned, by interest in an improvement cut and distance from residence to nearest tract, Minnesota, 1982

Interested in improvement cut	Distance from residence (miles)									
	0 - 24		25 - 49		50+		No answer		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Yes	4,000	14	1,100	85	4,250	55	1,600	54	10,950	27
No	24,100	84	200	15	3,100	40	900	31	28,300	70
No answer	500	2	-	-	350	5	450	15	1,300	3
Total	28,600	100	1,300	100	7,700	100	2,950	100	40,550	100
					ACRES OWNED					
Yes	206,150	36	30,700	70	117,900	56	30,750	42	385,500	43
No	325,300	57	13,050	30	79,000	37	25,750	35	443,100	49
No answer	38,650	7	-	-	14,500	7	16,850	23	70,000	8
Total	570,100	100	43,750	100	211,400	100	73,350	100	898,600	100

Table 36A.--Estimated number of individual owners who are interested in an improvement cut, by owner characteristics and forest survey unit, Minnesota, 1982

Owner characteristic	Survey unit									
	Aspen-Birch		Northern Pine		Central Hardwood		Prairie		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
AGE (years)										
< 24	50	1	400	2	400	2	50	1	900	2
25 - 44	4,850	44	8,350	40	4,400	26	2,150	35	19,750	36
45 - 64	4,000	36	8,450	40	7,200	43	2,500	41	22,150	40
65 +	2,000	18	2,500	12	4,250	26	1,400	23	10,150	19
No answer	100	1	1,250	6	500	3	50	*	1,900	3
Total	11,000	100	20,950	100	16,750	100	6,150	100	54,850	100
					OWNERS					
EDUCATION										
1 - 8 years	750	7	1,750	9	3,650	22	1,600	26	7,750	14
9 - 12 years	1,750	16	5,300	25	3,600	22	1,200	20	11,850	22
1 - 4 yrs of college	5,200	47	9,600	46	6,600	39	2,850	46	24,250	44
More than 4 yrs of college	3,050	28	4,250	20	2,350	14	450	7	10,100	18
No answer	250	2	50	*	550	3	50	1	900	2
Total	11,000	100	20,950	100	16,750	100	6,150	100	54,850	100
					OWNERS					
OCCUPATION										
Professional	3,300	30	4,650	22	2,500	15	500	8	10,950	20
Executive	800	7	3,450	17	1,500	9	350	6	6,100	11
Retired	2,000	18	4,150	20	4,150	25	1,650	27	11,950	22
White collar	2,250	21	1,600	8	1,500	9	550	9	5,900	11
Skilled labor	1,650	15	900	4	1,800	11	200	3	4,550	8
Homemaker	100	1	100	*	700	4	100	2	1,000	2
Farmer	350	3	2,750	13	3,400	20	2,200	36	8,700	16
Logger	100	1	100	*	-	-	-	-	200	*
Unskilled labor	50	*	2,650	13	350	2	450	7	3,500	6
No answer	400	4	600	3	850	5	150	2	2,000	4
Total	11,000	100	20,950	100	16,750	100	6,150	100	54,850	100
					OWNERS					
INCOME										
Under $10,000	1,400	13	2,300	11	4,150	25	250	4	8,100	15
$10-14,999	800	7	3,900	19	1,350	8	450	7	6,500	12
$15-19,999	1,900	17	3,500	17	1,550	9	750	12	7,700	14
$20-24,999	1,800	16	2,700	13	1,450	9	1,400	23	7,350	13
$25-29,999	1,600	15	2,200	10	1,300	8	100	2	5,200	9
$30-39,999	550	5	1,500	7	1,950	11	200	3	4,200	8
$40,000 +	1,900	17	2,800	13	3,500	21	2,250	37	10,450	19
No answer	1,050	10	2,050	10	1,500	9	750	12	5,350	10
Total	11,000	100	20,950	100	16,750	100	6,150	100	54,850	100

* Less than 0.5 percent.

Table 36B.--Estimated number acres owned by individual owners who are interested in an improvement cut, by owner characteristics and forest survey unit, Minnesota, 1982

Owner characteristic	Survey unit: Aspen-Birch Number	Aspen-Birch Percent	Northern Pine Number	Northern Pine Percent	Central Hardwood Number	Central Hardwood Percent	Prairie Number	Prairie Percent	All units Number	All units Percent
					ACRES OWNED					
AGE (years)										
> 24	2,300	*	18,750	2	15,200	2	2,850	1	39,100	1
25 - 44	152,400	30	323,200	29	262,100	28	74,500	29	812,200	29
45 - 64	247,950	49	618,350	55	471,000	50	120,300	47	1,457,600	51
65 +	102,350	20	126,500	11	163,350	17	51,550	20	443,750	16
No answer	6,850	1	28,100	3	34,150	3	5,750	3	74,850	3
Total	511,850	100	1,114,900	100	945,800	100	254,950	100	2,827,500	100
					ACRES OWNED					
EDUCATION										
1 - 8 years	63,700	12	126,500	11	132,950	14	60,150	24	383,300	13
9 - 12 years	118,300	23	276,350	25	235,500	25	65,900	26	696,050	25
1 - 4 yrs of college	209,300	41	501,250	45	379,850	40	94,500	37	1,184,900	42
More than 4 yrs of college	106,900	21	196,750	18	170,950	18	28,650	11	503,250	18
No answer	13,650	3	14,050	1	26,550	3	5,750	2	60,000	2
Total	511,850	100	1,114,900	100	945,800	100	254,950	100	2,827,500	100
					ACRES OWNED					
OCCUPATION										
Professional	122,850	24	163,950	15	159,550	17	22,900	9	469,250	17
Executive	61,450	12	178,000	16	98,750	10	22,900	9	361,100	13
Retired	106,900	21	192,050	17	144,350	15	43,000	17	486,300	17
White collar	38,650	8	84,350	8	94,950	10	20,050	8	238,000	8
Skilled labor	77,350	15	74,950	7	94,950	10	11,450	4	258,700	9
Homemaker	6,800	1	14,050	1	15,200	2	5,750	2	41,800	1
Farmer	56,900	11	267,000	24	262,100	28	108,850	43	694,850	25
Logger	9,100	2	4,700	*	-	-	-	-	13,800	*
Unskilled labor	4,550	1	89,000	8	26,600	3	11,450	5	131,600	5
No answer	27,300	5	46,850	4	49,350	5	8,600	3	132,100	5
Total	511,850	100	1,114,900	100	945,800	100	254,900	100	2,827,500	100
					ACRES OWNED					
INCOME										
Under $10,000	88,750	17	131,150	12	132,950	14	20,050	8	372,900	13
$10-14,999	45,500	9	145,200	13	68,400	7	31,500	12	290,600	10
$15-19,999	72,800	14	121,800	11	83,350	9	31,500	12	309,650	11
$20-24,999	63,700	13	159,250	14	79,750	8	37,250	15	339,950	12
$25-29,999	47,750	9	107,750	10	79,750	9	5,750	2	241,000	8
$30-39,999	47,800	10	112,450	10	98,750	11	14,300	6	272,300	10
$40,000 +	97,800	19	196,750	18	334,250	35	94,550	37	723,350	26
No answer	47,750	9	140,550	12	68,400	7	20,050	8	276,750	10
Total	511,850	100	1,114,900	100	945,800	100	254,950	100	2,827,500	100

* Less than 0.5 percent.

Table 37.--Estimated number of private owners and acres of commercial forest land owned, by request for forestry assistance and forest survey unit, Minnesota, 1982

Forestry assistance requested	Forest survey unit									
	Aspen-Birch		Northern Pine		Central Hardwood		Prairie		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Yes	5,050	17	5,550	12	4,250	12	1,400	7	16,250	12
No	23,500	18	39,700	84	27,750	80	13,150	71	104,100	80
No answer	1,650	5	2,100	4	2,700	8	4,000	22	10,450	8
Total	30,200	100	47,350	100	34,700	100	18,550	100	130,800	100
					ACRES OWNED					
Yes	211,550	21	454,400	23	345,650	21	37,250	8	1,048,850	21
No	716,600	72	1,461,500	72	1,185,100	74	403,900	86	3,767,100	74
No answer	68,250	7	107,750	5	79,750	5	28,650	6	284,400	5
Total	996,400	100	2,023,650	100	1,610,500	100	469,800	100	5,100,350	100

Table 38.--Estimated number of private owners and acres of commercial forest land owned, by owners who have requested forestry assistance and size class of ownership, Minnesota, 1982

Size class (acres)	All private owners		Owners that requested assistance		
	Number	Percent	Number	Percent	Percent of size class
			OWNERS		
1 - 49	99,400	76	10,150	63	10
50 - 99	18,600	14	3,000	18	16
100 - 499	12,550	10	2,950	18	24
500 +	250	*	150	1	60
Total	130,800	100	16,250	100	12
			ACRES OWNED		
1 - 49	1,494,100	29	173,850	17	12
50 - 99	1,299,150	26	220,600	21	17
100 - 499	2,051,400	40	539,700	51	26
500 +	255,700	5	114,700	11	45
Total	5,100,350	100	1,048,850	100	21

* Less than 0.5 percent.

Table 39.--Estimated number of assisted owners and acres of commercial forest land owned, by size class of ownership and distance from residence to nearest tract, Minnesota, 1982

Size class (acres)	Miles to nearest tract: 0 - 24 Number	Percent	25 - 49 Number	Percent	50 + Number	Percent	No answer Number	Percent	All assisted owners Number	Percent
					ASSISTED OWNERS					
1 - 49	7,850	48	700	4	1,550	10	50	*	10,150	63
50 - 99	2,050	13	150	1	700	4	100	1	3,000	18
100 - 499	1,950	12	150	1	800	5	50	*	2,950	18
500 +	100	1	*	*	50	*	-	-	150	1
Total	11,950	74	1,000	6	3,100	19	200	1	16,250	100
					ACRES OWNED					
1 - 49	127,650	12	8,900	1	35,000	3	2,300	*	173,850	17
50 - 99	148,200	14	12,150	1	54,200	5	6,050	1	220,600	21
100 - 499	340,000	32	25,200	2	153,000	15	21,500	2	539,700	51
500 +	60,250	6	6,100	1	48,350	5	-	-	114,700	11
Total	676,100	64	52,350	5	290,550	28	29,850	3	1,048,850	100

* Less than 0.5 percent.

Table 40.--Estimated number of private owners who requested forestry assistance and acres of commercial forest land owned, by type of assistance and size class of ownership, Minnesota, 1982

Nature of assistance	Size class of ownership: 1 - 49 acres Number	Percent	50 - 99 acres Number	Percent	100 - 499 acres Number	Percent	500 + acres Number	Percent	All owners who requested assist. Number	Percent
					ASSISTED OWNERS					
TSI[1]	650	6	350	12	300	10	*	*	1,300	8
Planting	300	3	400	13	300	10	*	*	1,000	6
Sales and valuation[2]	2,400	24	700	23	800	27	50	33	3,950	24
General management[3]	4,700	46	1,150	39	1,000	34	50	33	6,900	43
No answer	2,100	21	400	13	550	19	50	33	3,100	18
Total	10,150	100	3,000	100	2,950	100	150	100	16,250	100
					ACRES OWNED					
TSI[1]	18,950	11	28,800	13	52,250	10	6,100	5	106,100	10
Planting	6,650	4	25,450	12	56,000	10	9,350	8	97,450	9
Sales and valuation[2]	55,400	32	49,050	22	135,450	25	26,350	23	266,250	26
General management[3]	60,600	35	85,900	39	183,450	34	46,700	41	376,650	36
No answer	32,250	18	31,400	14	112,550	21	26,200	23	202,400	19
Total	173,850	100	220,600	100	539,700	100	114,700	100	1,048,850	100

* Fewer than 25 owners or less than 0.5 percent.

[1] Includes thinning, improvement cuts, pruning, herbicide applications and other timber stand improvements.

[2] Includes timber marking, sales assistance, and determination of merchantability.

[3] Includes management planning, surveying, and insect and disease control.

Table 41.--Estimated number of private owners requesting forestry assistance and acres of commercial forest land owned, by type of assistance and distance from residence to nearest tract, Minnesota, 1982

Type of assistance	Miles to nearest tract								All owners who requested assist.	
	<25 miles		25 - 49 miles		50 + miles		No answer			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					ASSISTED OWNERS					
TSI[1/]	550	5	*	*	750	24	-	-	1,300	8
Planting	950	8	*	*	50	2	*	*	1,000	6
Sales and valuation[2/]	2,800	23	800	80	250	8	100	50	3,950	24
General management[3/]	5,300	44	100	10	1,450	47	50	25	6,900	43
No answer	2,350	20	100	10	600	19	50	25	3,100	19
Total	11,950	100	1,000	100	3,100	100	200	100	16,250	100
					ACRES OWNED					
TSI[1/]	49,250	7	2,300	4	54,550	19	-	-	106,100	10
Planting	74,050	11	4,700	9	14,050	5	4,650	16	97,450	9
Sales and valuation[2/]	191,250	28	18,050	35	47,700	16	9,250	31	266,250	26
General management[3/]	246,450	37	9,850	19	112,750	39	7,600	25	376,650	36
No answer	115,100	17	17,450	33	61,500	21	8,350	28	202,400	19
Total	676,100	100	52,350	100	290,550	100	29,850	100	1,048,850	100

* Fewer than 25 owners or less than 0.5 percent.

1/ Includes thinning, improvement cuts, pruning, herbicide applications and other timber stand improvements.

2/ Includes timber marking, sales assistance, and determination of merchantability.

3/ Includes management planning, surveying, and insect and disease control.

Table 42.--Estimated number of assisted ownership units and acres of commercial forest land owned, by harvest history, Minnesota, 1982

Harvest history	Owners			Acres owned		
	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)
Major and minor harvesters	13,350	82	26	839,550	80	6
Nonharvesters	2,850	18	21	200,800	19	13
No answer	50	*	83	8,500	1	71
Total	16,250	100	22	1,048,850	100	5

Table 43.--Estimated proportion of assisted individual owners and acres of commercial forest land owned, by age class and nature of assistance, Minnesota, 1982

Nature of assistance	Age group (years) < 25 Percent	25-44 Percent	45-64 Percent	65+ Percent	No answer Percent
		PERCENT OF ASSISTED OWNERS			
TSI[1]	-	2 (4)[2]	6 (17)	1 (3)	* (6)
Planting	-	2 (4)	2 (4)	2 (12)	- -
Sales and valuation[3]	-	11 (23)	9 (26)	3 (26)	2 (75)
General management[4]	-	26 (57)	13 (37)	3 (18)	* (19)
Other	-	1 (2)	1 (2)	* (2)	- -
No answer	-	4 (10)	5 (14)	7 (45)	- -
Total	0	46(100)	36(100)	16(100)	2(100)
Distribution of all owners in population[5]	0:1	19:32	12:40	9:22	4:5
		PERCENT OF ACRES OWNED			
TSI[2]	-	4 (12)	6 (11)	1 (6)	* (9)
Planting	-	3 (10)	4 (7)	1 (8)	- -
Sales and valuation[3]	-	7 (21)	12 (24)	4 (28)	2 (75)
General management[4]	-	12 (40)	20 (38)	6 (38)	* (16)
Other	-	2 (7)	2 (4)	1 (6)	- -
No answer	-	3 (10)	8 (16)	2 (14)	- -
Total	0	31(100)	52(100)	15(100)	2(100)
Distribution of total acres[5]	0:1	23:26	22:48	14:21	12:4

* Less than 0.5 percent.

1/ Includes thinning, improvement cuts, pruning, herbicide applications and other timber stand improvements.

2/ The first listed number shows the percent of all assisted owners or all assisted acres represented by that cell. The second listed number (in parentheses) shows the distribution within each age group.

3/ Includes timber marking, sales assistance, and determination of merchantability.

4/ Includes management planning, surveying, and insect and disease control.

5/ The first number shows the percent of all owners (or acres owned) in that age group who requested assistance, the second number shows the percent of the entire population represented by all owners in that age group.

Table 44.--Estimated proportion of assisted individual owners and acres of commercial forest land owned, by occupation group and nature of assistance, Minnesota, 1982

Nature of assistance	Occupation group																	
	Professional		Executive		Retired		White collar		Skilled trade		Homemaker		Farmer		Logger		Unskilled labor		No answer	
	Percent		Percent		Percent		Percent		Percent		Percent		Percent		Percent		Percent		Percent	
									ASSISTED OWNERS											
TSI[1]	4	(24)[2]	*	(4)	*	(3)	-	-	1	(2)	*	(6)	2	(14)	-	-	*	(4)	*	(3)
Planting	*	(2)	1	(10)	2	(18)	*	(10)	*	(2)	-	-	2	(10)	-	-	*	(4)	-	-
Sales and valuation[3]	4	(21)	3	(41)	2	(18)	2	(29)	3	(10)	*	(7)	8	(43)	*	(65)	3	(71)	1	(14)
General management[4]	6	(35)	3	(34)	3	(34)	3	(44)	20	(73)	3	(79)	5	(28)	-	-	*	(7)	1	(11)
Other	1	(4)	*	(6)	*	(6)	*	(1)	-	-	*	(8)	*	(*)	*	(35)	-	-	*	(1)
No answer	2	(14)	*	(5)	2	(21)	1	(13)	3	(13)	-	-	1	(5)	-	-	1	(14)	7	(71)
Total	17	(100)	7	(100)	9	(100)	6	(100)	27	(100)	3	(100)	18	(100)	*	(100)	4	(100)	9	(100)
Distribution of all owners in population[5]	19:11		11:8		5:22		9:8		33:10		17:3		14:16		2:1		4:11		17:10	
									ACRES OWNED											
TSI[1]	4	(18)	1	(8)	1	(3)	-	-	*	(6)	1	(24)	3	(15)	-	-	*	(11)	*	(8)
Planting	1	(4)	2	(16)	1	(5)	1	(12)	1	(7)	-	-	2	(10)	-	-	1	(14)	-	-
Sales and valuation[3]	6	(26)	3	(20)	3	(19)	2	(21)	4	(34)	*	(20)	4	(22)	*	(50)	1	(40)	2	(39)
General management[4]	7	(31)	5	(40)	7	(50)	5	(58)	4	(36)	*	(20)	7	(37)	-	-	1	(21)	1	(27)
Other	2	(6)	*	(4)	1	(8)	*	(3)	-	-	1	(36)	1	(2)	*	(50)	-	-	*	(5)
No answer	3	(15)	1	(12)	2	(15)	*	(6)	2	(17)	-	-	3	(14)	-	-	1	(14)	1	(21)
Total	23	(100)	12	(100)	15	(100)	8	(100)	11	(100)	2	(100)	20	(100)	*	(100)	4	(100)	5	(100)
Distribution of total acres in population[5]	37:12		23:10		14:20		20:8		24:9		16:24		14:1		11:6		14:8			

* Less than 0.5 percent.

1/ Includes thinning, improvement cuts, pruning, herbicide applications and other timber stand improvements.

2/ The first listed number shows the percent of all assisted owners or all assisted acres represented by that cell. The second listed number (in parentheses) shows the percent distribution only within that occupatation group.

3/ Includes timber marking, sales assistance, and determination of merchantability.

4/ Includes management planning, surveying, and insect and disease control.

5/ The first number shows the percent of all owners (or acres owned) in that occupation group who requested assistance, the second number shows the percent of the entire population represented by all owners in that occupation group.

Table 45.--Estimated proportion of assisted owners and acres of commercial forest land owned, by education group and nature of assistance, Minnesota, 1982

Nature of assistance	Education level				
	1 - 8 years	9 - 12 years	1 - 4 years of college	More than 4 years of college	No answer
	Percent	Percent	Percent	Percent	Percent
ASSISTED OWNERS					
TSI[1]	* (1)[2]	2 (6)	5 (10)	2 (9)	- -
Planting	1 (9)	1 (4)	2 (5)	2 (10)	- -
Sales & value[3]	2 (42)	6 (22)	10 (23)	4 (24)	1 (40)
Gen mgt[4]	2 (28)	16 (57)	16 (36)	7 (39)	1 (60)
Other	- -	1 (2)	1 (2)	1 (4)	- -
No answer	1 (20)	3 (9)	10 (24)	3 (14)	- -
Total	6 (100)	29 (100)	44 (100)	19 (100)	2 (100)
Distribution of all owners in population[5]	4:19	11:32	17:33	24:10	5:6
ACRES OWNED					
TSI[1]	* (3)	2 (13)	4 (9)	4 (15)	- -
Planting	1 (12)	2 (10)	3 (8)	2 (7)	- -
Sales & value[3]	3 (29)	4 (25)	10 (23)	8 (25)	1 (45)
Gen mgt[4]	3 (30)	4 (24)	20 (45)	10 (36)	1 (55)
Other	- -	2 (12)	1 (3)	2 (6)	- -
No answer	2 (26)	3 (16)	5 (12)	3 (11)	- -
Total	9 (100)	17 (100)	43 (100)	29 (100)	2 (100)
Distribution of all acres in population[5]	9:19	13:27	23:36	43:13	9:5

* Less than 0.5 percent.

1/ Includes thinning, improvement cuts, pruning, herbicide applications and other timber stand improvements.

2/ The first listed number shows the percent of all assisted owners or all assisted acres represented by that cell. The second listed number (in parentheses) shows the percent distribution only within that education group.

3/ Includes timber marking, sales assistance, and determination of merchantability.

4/ Includes management planning, surveying, and insect and disease control.

5/ The first number shows the percent of all owners (or acres owned) in that education group who requested assistance, the second number shows the percent of the entire population represented by all owners in that education group.

Table 46.--Estimated proportion of assisted owners and acres of commercial forest land owned, by income group and nature of assistance, Minnesota, 1982

Nature of assistance	Income group (thousand dollars)							
	> $10 Percent	$10-15 Percent	$15-20 Percent	$20-25 Percent	$25-30 Percent	$30-40 Percent	$40 + Percent	No answer Percent
				ASSISTED OWNERS				
TSI[1]	* (3)[2]	1 (22)	1 (9)	* (2)	1 (3)	* (10)	3 (14)	2 (10)
Planting	- -	* (4)	* (4)	* (1)	* (10)	1 (16)	1 (8)	2 (8)
Sales & value[3]	2 (15)	1 (21)	4 (41)	3 (12)	3 (40)	1 (17)	6 (35)	6 (23)
Gen mgt[4]	6 (60)	3 (52)	2 (16)	18 (81)	2 (33)	1 (34)	6 (32)	5 (22)
Other	* (5)	* (1)	* (1)	1 (3)	- -	* (3)	1 (4)	* *
No answer	2 (17)	- -	3 (29)	* (1)	1 (14)	1 (20)	1 (7)	9 (37)
Total	10(100)	5(100)	10(100)	22(100)	7(100)	4(100)	18(100)	24(100)
Distribution of all owners in population[5]	6:20	6:11	10:13	21:13	12:7	7:7	19:12	19:17
				ACRES OWNED				
TSI[1]	1 (6)	2 (25)	2 (14)	1 (8)	* (3)	1 (13)	4 (12)	1 (7)
Planting	- -	1 (8)	1 (5)	1 (6)	1 (10)	2 (24)	2 (8)	1 (10)
Sales & value[3]	4 (28)	1 (19)	3 (31)	3 (25)	4 (39)	1 (21)	6 (19)	3 (26)
Gen mgt[4]	5 (42)	3 (44)	3 (34)	7 (50)	3 (34)	2 (24)	10 (35)	5 (37)
Other	1 (8)	* (4)	* (3)	1 (7)	- -	* (3)	2 (7)	* (4)
No answer	2 (16)	- -	1 (13)	* (4)	1 (4)	1 (15)	5 (19)	2 (16)
Total	13(100)	7(100)	10(100)	13(100)	9(100)	7(100)	29(100)	12(100)
Distribution of all acres in population[5]	14:18	12:11	17:11	23:11	22:8	18:8	29:20	19:13

* Less than 0.5 percent.

[1] Includes thinning, improvement cuts, pruning, herbicide applications and other timber stand improvements.

[2] The first listed number shows the percent of all assisted owners or all assisted acres represented by that cell. The second listed number (in parentheses) shows the percent distribution only within that income group.

[3] Includes timber marking, sales assistance, and determination of merchantability.

[4] Includes management planning, surveying, and insect and disease control.

[5] The first number shows the percent of all owners (or acres owned) in that income group who requested assistance, the second number shows the percent of the entire population represented by all owners in that income group.

Table 47.--Estimated number of private ownership units and acres of commercial forest land owned, by agency that owners would contact for forestry assistance, and size class of ownership, Minnesota, 1982

Agency	Size class of ownership									
	1 - 49 acres		50 - 99 acres		100 - 499 acres		500 + acres		All owners	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
County forester	2,350	2	400	2	350	3	*	*	3,100	2
State forester	14,250	14	3,900	21	3,200	26	150	60	21,500	17
Soil Cons. Service	1,450	2	150	1	100	1	-	-	1,700	1
U.S. Forest Service	2,950	3	300	2	300	2	*	*	3,550	3
Agric. Stabilization Cons. Service	3,600	4	200	1	150	1	-	-	3,950	3
Consultant/industry Forester	350	*	150	1	50	*	*	*	550	*
Extension Service	1,500	2	100	1	250	2	*	*	1,850	1
Other	1,050	1	400	2	500	4	*	*	1,950	2
Don't know	43,800	44	10,100	54	5,350	43	50	20	59,300	45
No answer	28,100	28	2,900	15	2,300	18	50	20	33,350	26
Total	99,400	100	18,600	100	12,550	100	250	100	130,800	100
					ACRES OWNED					
County forester	29,850	2	29,850	2	60,000	3	10,750	4	130,450	2
State forester	293,650	20	274,850	21	556,000	27	106,150	42	1,230,650	24
Soil Cons. Service	19,050	1	8,500	1	27,450	1	-	-	55,000	1
U.S. Forest Service	21,400	1	19,700	2	49,350	2	3,800	1	94,250	2
Agric. Stabilization Cons. Service	15,900	1	14,550	1	29,250	2	-	-	59,700	1
Consultant/industry forester	10,800	1	9,850	1	6,950	*	9,350	4	39,950	1
Extension Service	28,600	2	7,550	1	41,150	2	9,350	4	86,650	2
Other	29,650	2	30,900	2	74,000	4	6,050	2	140,600	3
Don't know	675,200	45	701,600	54	840,150	41	63,300	25	2,280,250	45
No answer	370,000	25	201,800	15	367,100	18	46,950	18	985,850	19
Total	1,494,100	100	1,299,150	100	2,051,400	100	255,700	100	5,100,350	100

* Fewer than 25 owners or less than 0.5 percent.

Table 48.--Estimated number of private ownership units and acres of commercial forest land owned, by agency that owners would contact for forestry assistance, and by decision to seek assistance, Minnesota, 1982

Agency	Sought assistance		No assistance		No answer		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
				OWNERS				
County forester	550	3	2,550	3	-	-	3,100	2
State forester	7,750	48	13,650	13	100	1	21,500	17
SCS	200	1	1,500	1	-	-	1,700	1
USFS	3,050	19	500	1	-	-	3,500	3
ASCS	250	2	3,700	4	*	*	3,950	3
Consultant/industry forester	100	1	450	*	-	-	550	*
Extension service	350	2	1,500	1	-	-	1,850	1
Other	150	1	1,800	2	-	-	1,950	2
Don't know	2,350	14	56,500	54	450	4	59,300	45
No answer	1,500	9	21,950	21	9,900	95	33,350	26
Total	16,250	100	104,100	100	10,450	100	130,800	100
				ACRES OWNED				
County forester	58,200	5	72,250	2	-	-	130,450	2
State forester	663,650	63	562,350	15	4,650	2	1,230,650	24
SCS	20,750	2	34,250	1	-	-	55,000	1
USFS	42,600	4	51,650	1	-	-	94,250	2
ASCS	29,100	3	28,300	1	2,300	1	59,700	1
Consultant/industry forester	9,250	1	27,700	1	-	-	36,950	1
Extension service	31,300	3	55,350	1	-	-	86,650	2
Other	19,100	2	121,500	3	-	-	140,600	3
Don't know	114,350	11	2,133,550	57	32,350	11	2,280,250	45
No answer	60,550	6	680,200	18	245,100	86	985,850	19
Total	1,048,850	100	3,767,100	100	284,400	100	5,100,350	100

* Fewer than 25 owners or less than 0.5 percent.

Table 49.--Estimated number of private ownership units and acres of commercial forest land owned, by availability for recreation, Minnesota, 1982

Recreation availability	Owners			Acres owned		
	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)
Owner does not recreate but permits public use	12,000	9	33	296,400	6	11
Owner recreates and permits public use	30,000	23	14	1,555,600	31	4
Owner recreates and excludes others	47,250	36	8	1,904,350	37	3
Owner recreates and no public use shown	25,550	20	16	936,050	18	6
Subtotal recreation	114,800	88	7	4,692,400	92	1
Not used/not permitted	6,250	5	28	109,250	2	18
No answer	9,750	7	33	298,700	6	11
Total	130,800	100	6	5,100,350	100	0.65

Table 50.--Estimated number of private ownership units and acres of commercial forest land owned, by type of recreational use by the owner, the owner's family, or immediate circle of friends, Minnesota, 1982

Recreation by owner, family or friends	Owners			Acres owned		
	Number	Percent	Sampling error(%)	Number	Percent	Sampling Error(%)
Hiking or skiing	51,850	40	8	2,256,100	44	3
Picnicking	27,500	21	12	1,196,900	23	5
Camping	24,700	19	13	1,110,150	22	5
Fishing	20,700	16	11	957,600	19	6
Hunting or trapping	63,600	49	6	3,273,350	64	2
Snowmobiling/trail-biking	32,700	25	9	1,649,650	32	4
Berry picking	46,700	36	9	2,073,600	41	3
Other	12,200	9	32	401,000	8	9
Any recreation by self [1/]	102,800	79	7	4,396,00	86	1
No uses indicated	28,000	21	19	704,350	14	7
Total	130,800	100	6	5,100,350	100	0.65

[1/] Columns do not add to total because some owners report more than one type of use.

Table 51.--Estimated number of private ownership units and acres of commercial forest land owned, by type of public use permitted, Minnesota, 1982

Type of public use	Owners			Acres owned		
	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)
Hiking or skiing	11,400	9	17	779,150	15	6
Picnicking	3,500	3	19	308,850	6	11
Camping	3,500	3	19	303,400	6	11
Fishing	5,400	4	27	316,650	6	10
Hunting or trapping	19,050	14	10	1,156,350	23	7
Snowmobiling/trail-biking	8,350	6	10	687,650	13	7
Berry picking	7,750	6	24	489,300	10	8
Other	4,250	3	71	79,600	2	21
All types [1/]	42,000	32	14	1,852,000	36	4
Public use not permitted	53,500	41	8	2,013,600	40	3
No uses indicated	35,300	27	15	1,234,750	24	5
Total	130,800	100	6	5,100,350	100	0.65

[1/] Columns do not add to total because some owners report more than one type of use.

Table 52.--Estimated number of private ownership units and acres of commercial forest land owned, by availability for recreational use and forest survey unit, Minnesota, 1982

Recreational use	Aspen-Birch		Northern Pine		Central Hardwood		Prairie		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Public use:										
Hiking	2,650	9	4,000	8	2,850	8	1,900	10	11,400	9
Hunting	2,750	9	7,850	16	5,950	17	2,500	13	19,050	14
Snowmobiling	1,450	5	3,450	7	2,350	7	1,100	6	8,350	6
All types[1/]	9,900	33	16,350	34	9,100	26	6,650	36	42,000	32
Public not permitted	9,400	31	20,700	44	16,500	48	6,900	37	53,500	41
No answer	10,900	36	10,300	22	9,100	26	5,000	27	35,300	27
Total	30,200	100	47,350	100	34,700	100	18,550	100	130,800	100
					OWNERS					
Owner recreation:										
Hiking	9,550	32	21,300	45	15,450	44	5,550	30	51,850	40
Hunting	10,350	34	26,250	55	19,100	55	7,900	42	63,600	49
Snowmobiling	8,450	28	11,950	25	9,600	28	2,700	14	32,700	25
All types[1/]	22,300	74	36,800	78	29,800	86	13,900	75	102,800	79
Not used by owner	4,200	14	7,300	15	3,500	10	3,250	17	18,250	14
No answer	3,700	12	3,250	7	1,400	4	1,400	8	9,750	7
Total	30,200	100	47,350	100	34,700	100	18,550	100	130,800	100
					ACRES OWNED					
Public use:										
Hiking	129,650	13	313,850	16	258,300	16	77,350	16	779,150	15
Hunting	204,750	20	459,050	23	372,250	23	120,300	26	1,156,350	23
Snowmobiling	109,200	11	299,800	15	201,300	12	77,350	16	687,650	13
All types[1/]	359,450	36	777,600	38	554,550	35	160,400	34	1,852,000	36
Public not permitted	429,950	43	782,300	39	649,500	40	151,850	32	2,013,600	40
No answer	207,000	21	463,750	23	406,450	25	157,550	34	1,234,750	24
Total	996,400	100	2,023,650	100	1,610,500	100	469,800	100	5,100,350	100
					ACRES OWNED					
Owner recreation:										
Hiking	414,050	42	913,450	45	771,050	48	157,550	34	2,256,100	44
Hunting	550,550	55	1,358,500	67	1,063,500	66	300,800	64	3,273,350	64
Snowmobiling	343,500	34	655,800	32	501,400	31	148,950	32	1,649,650	32
All types[1/]	855,400	86	1,728,550	85	1,416,750	88	395,300	84	4,396,000	86
Not used by owner	70,500	7	163,950	8	125,350	8	45,850	10	405,650	8
No answer	70,500	7	131,150	7	68,400	4	28,650	6	298,700	6
Total	996,400	100	2,023,650	100	1,610,500	100	469,800	100	5,100,350	100

[1/] Columns do not add to total because some owners permit more than one type of use.

Table 53.--Estimated number of private ownership units and acres of commercial forest land owned, by availability for recreational use and size class, Minnesota, 1982

Public use permitted	Size class of ownership									
	1 - 49 acres		50 - 99 acres		100 - 499 acres		500+ acres		All ownerships	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Yes	30,600	31	6,400	34	4,850	39	150	60	42,000	32
No	41,100	41	7,600	41	4,750	38	50	20	53,500	41
No answer	27,700	28	4,600	25	2,950	23	50	20	35,300	27
Total	99,400	100	18,600	100	12,550	100	250	100	130,800	100
					ACRES OWNED					
Yes	441,700	30	449,100	34	822,900	40	138,300	54	1,852,000	36
No	658,450	44	529,900	41	757,650	37	67,600	26	2,013,600	40
No answer	393,950	26	320,150	25	470,850	23	49,800	20	1,234,750	24
Total	1,149,100	100	1,299,150	100	2,051,400	100	255,700	100	5,100,350	100

Table 54.--Estimated number of private ownership units and acres of commercial forest land owned, by whether land is posted and forest survey unit, Minnesota, 1982

	Aspen-Birch		Northern Pine		Central Hardwood		Prairie		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Land posted	5,600	19	16,450	35	14,250	41	4,450	24	40,750	31
Land not posted	22,800	75	27,850	59	17,650	51	10,000	54	78,300	60
No answer	1,800	6	3,050	6	2,800	8	4,100	22	11,750	9
Total	30,200	100	47,350	100	34,700	100	18,550	100	130,800	100
					ACRES OWNED					
Land posted	341,250	34	875,950	43	797,650	50	183,350	39	2,198,200	43
Land not posted	577,800	58	979,050	49	729,300	45	263,550	56	2,549,700	50
No answer	77,350	8	168,850	8	83,550	5	22,900	5	352,450	7
Total	996,400	100	2,023,650	100	1,610,500	100	469,800	100	5,100,350	100

Table 55.--Estimated number of private ownership units and acres of commercial forest land owned, by reason for posting and public use permitted, Minnesota, 1982

Reason for posting	Public permitted		Public not permitted		No answer		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
				OWNERS				
Abuse of property	650	2 (11)[1/]	3,750	7 (16)	1,600	5 (15)	6,000	5 (15)
Safety	700	2 (12)	550	1 (2)	200	1 (2)	1,450	1 (3)
Control hunting	2,200	5 (37)	7,100	13 (29)	4,050	11 (38)	13,350	10 (33)
Privacy	150	* (2)	1,200	2 (5)	300	1 (3)	1,650	1 (4)
Protect livestock	50	* (1)	1,450	3 (6)	100	* (1)	1,600	1 (4)
Control access	1,100	3 (18)	6,400	12 (26)	3,000	8 (29)	10,500	8 (26)
Liability	50	* (1)	250	* (1)	-	-	300	* (1)
No reason given	1,050	2 (18)	3,600	7 (15)	1,250	4 (12)	5,900	5 (14)
All reasons	5,950	14(100)	24,300	45(100)	10,500	30(100)	40,750	31(100)
Land not posted	28,950	69	27,000	51	22,350	63	78,300	60
No answer	7,100	17	2,200	4	2,450	7	11,750	9
Total	42,000	100	53,500	100	35,300	100	130,800	100
				ACRES OWNED				
Abuse of property	7,500	4 (1)	257,800	13 (12)	69,000	6 (16)	401,800	8 (18)
Safety	43,150	2 (8)	50,350	3 (4)	18,250	1 (4)	111,750	2 (5)
Control hunting	202,200	11 (37)	330,850	16 (27)	155,050	13 (35)	688,100	13 (31)
Privacy	11,200	1 (2)	84,800	4 (7)	24,800	2 (6)	120,800	2 (6)
Protect livestock	20,700	1 (4)	55,800	3 (5)	15,100	1 (3)	91,600	2 (4)
Control access	118,450	6 (22)	307,300	15 (25)	99,000	8 (23)	524,750	10 (24)
Liability	6,950	* (1)	17,500	* (2)	-	-	24,450	* (1)
No reason given	64,450	4 (12)	113,150	6 (9)	57,300	5 (13)	234,900	5 (11)
All reasons	542,100	29(100)	1,217,550	60(100)	438,500	36(100)	2,198,150	43(100)
Land not posted	1,129,700	61	721,250	36	698,750	56	2,549,700	50
No answer	180,200	10	74,800	4	97,500	8	352,500	7
Total	1,852,000	100	2,013,600	100	1,234,750	100	5,100,350	100

* Less than 0.5 percent.

[1/] Percent of those who post their land.

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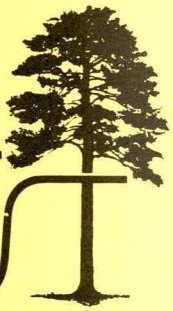
The private forest landowners of Minnesota—1982. Resour. Bull. NC-95. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station; 1986. 55 p.

Presents the results of a mail canvass of nonindustrial private forest landowners in Minnesota to relate owner attitudes and intentions concerning ownership, management, harvest and recreational use of their forest property. Provides 55 tables contrasting owner characteristics, management actions, and attitudes for the state and its four survey units.

KEY WORDS: Nonindustrial owners, forestry assistance, recreation, owner attitudes, harvesting, farm forestry, NIPFL.

1966-86

NORTH CENTRAL



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